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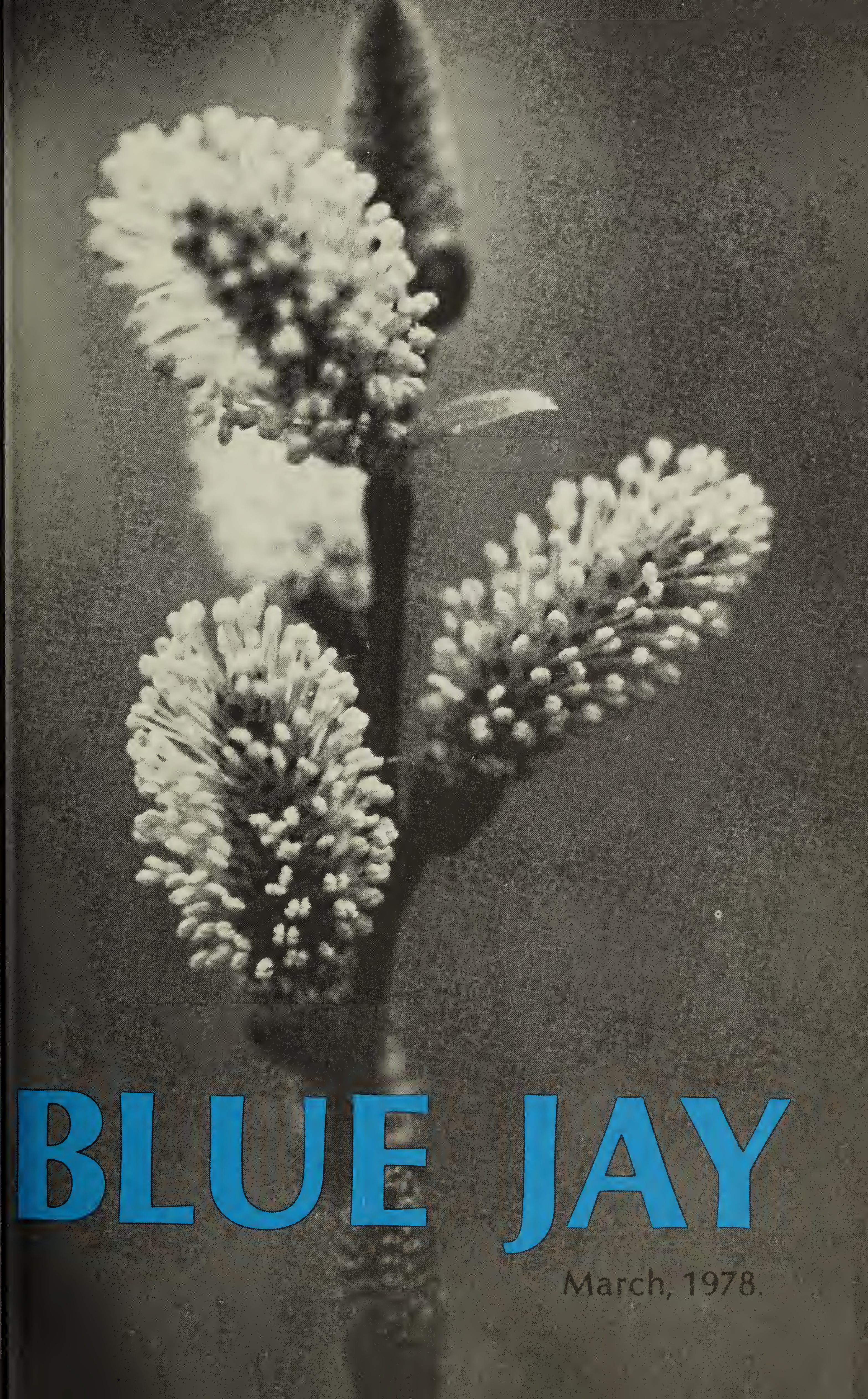

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BIRDWATCHING ETIQUETTE: THE NEED FOR A DEVELOPING PHILOSOPHY

RICHARD L. GLINSKI. Box 17114, Tucson, Arizona 85731

EDITOR'S NOTE: This article has been condensed from the June, 1976, issue of American Birds. It refers to birdwatching in the United States but applies equally to Canada, particularly to well known, favourite birding areas and to threatened species.

Birdwatching is a relatively recent leisure-time activity that involves interactions between man and birds that range from casual observation at window feeders to ardent 'life-listing' and photography. Its popularity as a sport has grown immeasurably in the last decade, and an ever-increasing number of unique canyons and shorelines are being preserved partly in recognition of the nongame birdlife they harbor . . .

In April of 1975 the U.S. Forest Service co-sponsored a symposium that dealt with the management of forest and range habitats for nongame birds.[1] The underlying reason for assembling experts in fields related to nongame ornithology was the new awareness of the value of the nonhunted-bird resource and of the need to manage its habitat.

Thus far there has been little mention of the effects of birdwatchers on the habitat and productivity of their quarry. The term management as it applies to nongame species is often viewed as either the preservation or manipulation of habitats; little attention is given to the management of people . . .

The intents of this essay are to present specific examples that indicate the need to manage birdwatchers, to propose the foundations of a behavioral code, an etiquette, that will regulate birdwatching activities on a pesonal and individual basis, and to generate further thought and study of the impact of man's seemingly harmless associations with nongame birds. . . .

Various techniques are employed to locate a particular species, including well organized groups that are led by knowledgeable guides, solitary or paired birders that stalk quietly and slowly, and disorganized groups and individuals that stumble loudly and randomly about. One common method of attracting a specific bird is to play taped recordings of that species' territorial vocalizations, which often readily lures the desired bird to the 'trespasser' in a fury of defensive displaying and calling. The nesting territories of many small birds and the exact nest tree of some raptors become well known — even published — and are often visited to insure sighting or photographing the residents. . . .

Taped vocalizations played at various times of the day probably disrupt the circadian rhythms that dictate the performance of territorial calling and displaying during certain times of the day, such as during the cool early morning hours in hot desert climates. Abnormal responses of small birds may make them or their unguarded nestlings more susceptible to predation. Tape recordings also frequently distract — and attract — other birdwatchers and can ruin the pleasant surroundings of natural bird song . . . .

Visits to active raptor nests usually result in an unfortunate waste of energy by the adult hawks that fly around the nest tree and call at the intruders. If such disturbances occur early in the breeding cycle, the pair may abandon that nest. If renesting occurs, fledging success may be reduced since the timing of the breeding cycle was altered. Large birds generally nest only once during a breeding season, and their activities from nest-building through post-fledging attendance can last up to five months or even longer for eagles. . . .

The timing of this cycle with other yearly cycles of temperature, rainfall and prey abundance is critical, thus large peripheral species cannot tolerate nesting disruptions. Moreover, eggs that are left unattended while the adult birds are warding off intruders are vulnerable to chilling and . . . to overheating when they are exposed to midday sunshine. . . .

Amateur photographers tend to linger obtrusively in certain areas where a particular species is known to reside, and they may cause wary birds to abandon that site. Federal regulation now prohibits photographing species that are legally classified as "endangered." Hiking trails that approach breeding sites of endangered wildlife are being closed during the spring and summer while reproduction occurs. Much of the avifauna of North America has not been sufficiently investigated, and many birds that may presently merit legal "endangered" distinction are excluded from the official list simply because there are no data to justify their inclusion.

In delicate habitats, abandonment of nests may be the indirect result of vegetation destruction caused by the trampling of too many people. . . .

Dead tree trunks and snags that shelter cavity-nesting birds can be knocked over by incessant tapping that shakes the occupants from the hole for all to see.

Essentially, the effects of birdwatching are unknown; it has been assumed that to pursue birds with binoculars is inconsequential. The impacts of such pursuit no doubt vary with the species observed and the time and location of the observation: thousands of birders were able to witness with a minimum of disturbance a wintering Ross' gull as it fed along a coastal shore in Massachusetts, yet a small fraction of the many people along Sonoita Creek during the nesting season of the Five-striped Sparrow could diminish the reproductive capability of this species in Arizona and the United States.

Unlike the interaction between man and game animals, which is regulated with data supplied by the established science of wildlife management, the recreational interaction between man and nongame species, especially birds, is neither understood nor managed. Proper wildlife management techniques dictate the gamebirds are not to be hunted with a shotgun during the breeding season. Similarly, nongame birds that are actively nesting should not be subjected to the uncalculated pressures of unregulated birdwatching.

The management of people who birdwatch, especially those who visit unique habitats during the nesting season, is a procedure that inevitably will be effected to preserve specific rare birds and their haunts. The methods of governing people generally involve limiting the access to designated areas during certain times of the year. If such procedures are handled carefully, the attractive atmosphere and impressive experiences of favorite birding places can be maintained without the artificialness that is normally associated with management. But regulation of this sort requires supporting data, which is lacking; furthermore, it demands money and a vast amount of human energy to sustain the regulatory bureaucracy.

One way to provide an efficient base from which the sport of birdwatching can continue, to improve the quality of the sport and its par ticipants, to minimize disturbances t exceptional habitats and rare birds and to reduce the need for costl bureaucratic control of birders is t adopt an etiquette that prescribe general good manners for bird watchers. The value of such

Young Swainson's Hawks *Gary Anweiler*

behavioral code is evident in the fact that the traditional manners of social etiquette usually facilitate the activities and interactions of those who conform to its rules by prescribing the behaviors which have proven to be the most efficient way for people to interact collectively. The ethical conduct of the individual is the basis for proficient behavior on any level of human interaction.

Any attempt to prescribe a birdwatcher's behavior should treat those activities that are performed in critical habitats, with raptors or rare birds, or during the nesting season. The occurrence of the nesting season and the relative scarcity of certain birds are generally known. Although critical habitats are not defined for many species, here they will be considered as small, isolated or unusual habitats that are favorite birdwatching locations.

I offer the following comments as a start toward what hopefully will be a developing etiquette. They are designed to provide an efficient means of birdwatching, whereby efficiency is gauged in terms of the number of birds seen per unit of birdwatcher-energy expended in memorable surroundings, and in terms of the number of fledglings produced in a specific area despite the presence of birders. They are presented simply as a foundation, and hopefully as a stimulus for further thought and research on the impacts of birdwatching.

1) Avoid the use of tape-recorded territorial calls of rare birds that are actively breeding. Universal attractants such as "pishing" are more acceptable since they probably have fewer adverse effects than the use of specific calls.

2) Observe bird nests from a distance great enough so that parent birds and their activities are not disturbed. Nesting colonies and raptor nests should be avoided.

3) Do not relentlessly follow or harass rare birds. Photography of birds should never include the removal of nestlings from the nest or of foliage close to the nest.

4) Respect the property and wishes of the private landowner. Many of the best birding places are on deeded lands, where the misbehavior of one can result in the exclusion of all.

5) Do not associate with large groups that are bused *en masse* to critical habitats and then turned loose without responsible guides. A responsible guide is one who: (a) knows the status of the species *and* the habitat in the area he is touring; (b) knows the most efficient way to view the avifauna with a minimum of disturbance; (c) limits the size of his group, thus enabling himself to convey effectively not just the markings on birds, but also the known individual traits and ecological requirements of each species. *Do* associate with responsible guides that offer more than a mere tally of field marks.

Although this beginning etiquette is mainly an aggregate of "do nots" that restrict one's activities, everyone can still boundlessly explore new methods of birding that will preserve both the sport and the resource. Doubtless there are many critical habitats that need to be recognized as such, and birders who realize this need in their area should inform visiting birders about the local problems and discover new ways of harmlessly viewing the threatened avifauna. Critical habitats of threatened species should be posted as such, preferably under the sponsorship of the local chapter of the National Audubon Society or conservation organization.

In conclusion, the effectiveness of the preceding discussion rests on the performance of the individual. While a society can accept the manners of an etiquette, the individual must possess a sense of propriety if the collective effort is to succeed. There can be no room for the over-zealous listers who are oblivious of everything but a field mark, and who unknowingly may run over a nest while attempting to see the "white bar on the wings." These people take from the sport of birding much more than they are able to give, for they can never develop a concern for birdlife as quickly as they can collect check-marks on a field list.

[1] SMITH, D. R., technical coordinator. 1975. Proceedings of the symposium of management of forest and range habitats for nongame birds. (May 6-9, 1975, Tucson, Ariz.) USDA For. Serv. Gen. Tech. Rep. WO-1, 343p. Wash., D.C.

GEORGE LANG — PIONEER ORNITHOLOGIST OF INDIAN HEAD

C. STUART HOUSTON, 863 University Drive, Saskatoon, Saskatchewan S7N 0J8

Born in Ottawa on December 22, 1872, George Lang came west with his parents, who began farming two miles northeast of Indian Head in 1887. George's father became the first gardener at the Experimental Farm and George purchased 480 acres of land for $6.00 an acre, five miles east and two miles north of Indian Head. In 1908, George rented his farm and became the first full-time secretary-treasurer of the Experimental Farm, where he remained until increasing arthritic problems forced his retirement in 1933.

In 1923, Lang became one of Saskatchewan's first three bird banders. In the 17 years through 1939, he banded 6,313 birds of 55 species; from these there are records of at least 60 recoveries of 8 species. His banding work has described in the Blue Jay in 1945, and his 31 Black-crowned Night Heron recoveries were listed in detail and mapped in 1967.[1] [2]

Prior to becoming a bird bander, Lang submitted spring migration dates to the United States Biological Survey, beginning in 1903. Photocopies of his submissions for the years 1903 to 1909, inclusive, and for 1912, 1913 and 1915 were made available through the courtesy of Chandler S. Robbins, Chief of Migratory Non-Game Bird Studies, U.S. Fish and Wildlife Service. Fall migration dates were available only for 1904. The 11 reports include data on 153 migratory species and offer considerable insight into the status of bird life in the early part of this century.

The combined migration dates of George Lang and his brother-in-law, George C. Harvey, also of Indian Head, were published in the annual report of the North West Territories' Department of Agriculture for 1903; George Lang's dates were in the annual report for 1904; and the dates of George Lang and of E. W. H. Trood of Cotham post office appeared in the 1905 report. Lang and Trood then combined with R. H. Carter of Fort Qu'Appelle and Laurence B. Potter of Eastend to collect spring migration dates under the name of the Territorial Natural History Society in 1907, 1908 and 1909; these were published with the support of the Department of Agriculture of the new province of Saskatchewan.

The names used by Lang in his early reports are of interest. In those days, Carolina Rail was an acceptable name for the Sora and similarly Grass Plover and Bartramian Sandpiper were terms for the Upland Sandpiper, Wilson's Tern was used for Common Tern, Shorelark for Horned Lark, Golden-crowned Thrush for Ovenbird, Black and White Creeper for Black-and-White Warbler and White-winged Blackbird for Lark Bunting.

The name of Bluebird, without any adjective, was used by the authorities of the time for Eastern Bluebird. This species was rare, with two noted on May 20, 1907, two on May 26 and again on May 28, 1909, and two on May 24, 1915. Mountain Bluebirds, then rare east of the Cypress Hills, were not recorded at Indian Head through 1915.

Species singled out for special mention as new for Lang's list of Indian Head birds included Red-headed Woodpecker on May 24, 1903; (as well as May 10, 1904 and May 27, 1908); Indigo Bunting, May 13, 1907; Old-squaw Duck, May 20, 1907; Audubon's Warbler, May 27, 1907; Scarlet Tanager, May 22, 1908 (second sighting not listed but third sighting was June 13, 1913); Virginia Rail, May 27, 1908 (and three in storm, May 19, 1920); Barn Owl, May 19, 1910, with the same individual collected June 10 by George C. Harvey; Western Kingbird, June 2,

George Lang

Whooping Crane *Fred W. Lahrman*

1910, with two pairs staying on to nest on telephone pole crossarms (later arrival dates of this new, northward-spreading species were for May 25, 1913, and May 29, 1915); Lazuli Bunting, May 27, 1912 (though George C. Harvey had seen one May 18, 1903); Cape May Warbler, two on May 16, 1913.

Lang did not see his first Yellow-bellied Sapsucker until May 12, 1904, and found a nest the same year. Two Pine Siskin nests in 1911, a Black-billed Cuckoo nest in a low bush on the Government Experimental Farm in 1915 and fully fledged Horned Larks on May 20, 1905 complete the nesting records mentioned incidentally on the migration forms.

Whooping Cranes were seen in three spring migrations. In 1904 Lang sighted three of April 19, with the next date of April 21 and the last seen date of April 24, remarking that more were seen that year than ever before; that fall, two stopped off near Indian Head from September 25 to October 2. In 1905, five Whooping Cranes were seen on April 26 and again the next day, with the last sighting May 1. Five were seen on April 27, 1910. These records were listed in R. P. Allen's monograph, while A. C. Bent listed a final migration record by Lang for April 15, 1920.

Other records of interest include Red-shafted Flickers, probably hybrids, on May 10, 1904 and May 26-30, 1908. A Crested Flycatcher was seen May 20, 1906 and two on May 22, 1907, with additional sightings to June 10 that year. Golden Eagles were recorded on April 7 and 14, 1907 and May 23, 1907. Ospreys were sighted four times between April 7 and May 23, 1907, three were recorded April 27, 1913 and two were noted on April 18, 1915, with a last date of May 2 that year.

Before too much prairie succumbed to the plough, the Upland Sandpiper was a plentiful breeding species, but by 1910 Lang noted that it was becoming rare. Say's Phoebe must have appeared around buildings and Lang gave it an arrival date of May 27, 1907 with a notation as common and breeding. On the other hand, the Eastern Phoebe on May 17, 1905 was the first Lang had ever seen; he listed it as rare and not breeding.

In the early days of settlement, before fireguards were ploughed and roads were built, occasional prairie fires still swept everything before them, sometimes along a 100-mile front. Poplar roots and stunted remnants were present, but they had no chance to become good-sized trees. Many birds which were later attracted to the small groves, were still scarce. Cedar Waxwings, listed as rare and seen only once in 1903, later became common. The Rose-breasted Grosbeak, not seen in 1903 and only moderately common in 1904, 1905, and 1906, was listed as common in 1907. Ruby-throated Hummingbirds were listed as "rare, not breeding" with only three sightings in the first 7 years. Purple Martins, also rare and not breeding, were only recorded in migration four times in 10 years. The Brown Thrasher was not recorded until 1910 and was then listed as breeding. Purple Finches were recorded in migration only once in 10 years. Bald Eagles and Red-tailed Hawks were not recorded once, the latter a striking contrast with the thousand birds of the latter species which Mary Skinner reported over the same area on April 1, 1976.

It is not as easy to explain why the Marbled Godwit was recorded only once (April 16, 1907) or the Wilson's Phalarope only once (May 12, 1909, with a notation of "scarcer every year.") The Lark Bunting was only noted in four years, beginning with a small flock visiting on June 17, 1904; it was then listed as breeding in 1906, 1908 and 1915.

Turkey Vultures were sighted June 20, 1904 and April 28, 1913, each time with the notation "now seldom noted but used to be very common." Sharp-shinned Hawks were recorded five years, three times with the notation "becoming scarcer every year." One Cooper's Hawk was seen May 7, 1907, with a note "used to be plentiful here, but very rare now." All three species were presumably more in evidence when Lang arrived in 1895.

One must appreciate the difficulties involved in identifying birds accurately in those days. Available bird books stressed identification of specimens in the hand; any colour illustrations were few in number and poorly done. Field guides were non-existent except for Chester Reed's booklets. Binoculars with centre focus and coated lenses, and bird song recordings, were still many years in the future.

With this in mind, it is interesting to trace Lang's increasing proficiency over the years. For example, LeConte's Sparrow and Warbling Vireo did not appear on his lists until 1906, the Ring-billed Gull in 1908, and Lincoln's and Lark Sparrows in 1913. Rough-legged Hawks were not separated by Lang into two species until 1910, when the American or Common Roughleg, migrating towards the far north, arrived on April 1 and the Ferruginous, listed as a moderately common breeder, arrived on April 8. Each year, late March and early April dates under "Chipping Sparrow" must have referred to the Tree Sparrow; if Lang owned field glasses, they could not have been effective at short range. The total absence of any mention of Sparague's Pipit until 1915 indicates that only then did he learn to identify the characteristic flight song of his ubiquitous prairie bird.

At the time, it is doubtful whether anyone in Saskatchewan apart from Laurence B. Potter at Eastend, was any more skilled in identification. Lang's records are a valuable documentation of bird life in the early years of settlement.

Lang moved to his daughter's at Cawston, B.C., in September, 1939, and died on September 12, 1941.

I wish to thank James H. Lang of Indian Head for information concerning his father.

[1] HOUSTON, C. S. 1945. Saskatchewan Bird Banders — No. 3. George Lang. Blue Jay 3:28.

[2] HOUSTON, C. S. 1967. Recoveries of Black-crowned Night Herons banded in Saskatchewan. Blue Jay 25:112-113.

SOCIETY OPPOSES WINTEGO DAM

At its Annual Meeting on October 15, 1977, the Saskatchewan Natural History Society passed a resolution urging the Government of Saskatchewan to abandon plans to build the Wintego Dam. The resolution also asked the Churchill River Board of Inquiry to recommend "alternative uses for the area compatible with needs of the local people and the protection of the environment."

In supporting the resolution, the Society emphasized the uniqueness of the Churchill as a white-water wilderness river, and maintained that the social, cultural and environmental costs of building a dam on the Churchill far outweigh any economic or energy benefits that might be derived from it.

A brief to support the Society's stand was presented to the Churchill River Board of Inquiry at hearings in Saskatoon on November 26, 1977. It was argued by Dr. Stuart Houston, who presented the Society's brief, that the public at large supports the Society's stand, although everyone recognizes the complexity of the question. The Society, like the general public, is concerned about the natural environment and about the native people who have made this area their home for generations.

"As naturalists," Dr. Houston said, "we have studied carefully the Churchill River Study Technical Report. We share the concerns in this report about the effect a dam at Wintego would have on water quality and aquatic life, including changes in depth, temperature, nutrients, chemistry and sedimentation, but wish to emphasize particularly the loss of purifying aeration at present rapids. The many effects on fish, plants, mammals, adjacent wetlands and forests have been noted by us with some apprehension."

To make the point about effects of the dam on wildlife, a striking example was cited — that of the endangered Bald Eagle. The Bald Eagle has virtually disappeared as a nesting species from the eastern half of North America and, although it still thrives along the ocean coasts of British Columbia and Alaska, its greatest inland stronghold is northern Saskatchewan. Its very best habitat includes the Churchill River and its tributaries, with one pair for every 9 to 28 shoreline miles, a heavy density for such a large bird.

"Bald Eagles need rapids," the brief said, "almost half the nests in the Churchill River Study area were within half a mile of rapids. A dam at Wintego would submerge many rapids where the eagles get much of their food, especially when they first return . . . at the end of March. If there are no rapids, the large lake above the dam will not open until perhaps the end of May, and the eagles will either start nesting before there is a reliable food supply, or their nesting will be delayed beyond the optimum timetable of nature, with equally disastrous results.

"An even greater threat to the eagles is the influx of a thousand or so workers involved in building a dam. Human pressure has had adverse effects on eagle breeding success everywhere in settled North America. In addition, there is for some as yet unexplained reason a drastic decrease in the number of breeding pairs for an appreciable number of miles both above and below a dam; this is obvious from a plotting of eagle nest locations on either side of the Island Falls dam in the Technical Survey data."

Beaver *Lorne Scott*

Technology, Dr. Houston reminds us, can destroy — but not create, the Eagle.

In the Society's view, the harm done by the reversal of natural processes by hydro engineers, though recognized in the Technical Report in the case of two fur-bearing animals, the beaver and the muskrat, is not sufficiently emphasized, and many other species have not been adequately studied. Once a dam is built water flows are artificially controlled, to be released over the dam in winter when electricity needs are greatest and stored in summer when energy needs are lowest — the opposite of the natural scheme of things.

Most important, however, are the effects on the native people in the north. For nearly 300 years the Churchill has been their major highway. The historic aspect alone would justify preservation of the river. But the Churchill is still a water highway, used extensively by the native people, and also by an increasing number of white-water canoeists, to whom it offers some of the finest white-water canoeing and wilderness experience in the world. In the winter, the river is still a highway because the ice forms a solid path for snowshoes, dogteams, motorized toboggans and bombadiers, and the river can be safely crossed except at the rapids.

The Wintego dam, on the other hand, would create a large, two-armed lake no longer safe except for large expensive boats with energy-guzzling motors. In winter, drawdowns would make the ice unsafe to cross at any time.

A Wintego dam would destroy the wilderness recreation and white-water canoeing that now exists. Add to the dam the destruction caused by building long power transmission lines, the impact of which the Technical Report did not adequately assess.

Furthermore, the Wintego dam might be only the first of a series. The Society has "watched with alarm how, once a dam is constructed on a river system the engineers present arguments for 'maximizing the potential and gaining more control by building a series of dams on the one system" (as on the Winnipeg and Nelson rivers in Manitoba).

"If one MUST build a series of dams on a river system, the Saskatchewan Natural History Society would reluctantly prefer the Saskatchewan River system, where two dams already exist; where the livelihood of only a few valley-bottom farmers would be affected and where appropriate compensation would be feasible, rather than wholesale disturbance of an entire culture and life-style; where a lake formed would be close to those desiring a lake; where relatively few lakes exist and where less energy is expended getting there; where water recreation would be increased, not destroyed; where transportation of nearby residents and crossing of the river would not be seriously affected; where the power produced would be near the people wishing it; where the transmission lines would avoid defacing sensitive northern terrain; where the historic, pictographic and aesthetic aspects are less important; where the destruction of unique wilderness and white-water canoeing is not at stake; and, finally, where the survival of a threatened species, the national emblem of our immediate neighbor, is not involved."

But naturalists recoil at the culture shock that such developments create for the native people in the north. They disagree with the philosophy and conclusions of the cost-benefit analysis of the Technical Report, and consider it particularly inappropriate to attempt to measure in dollars the value of the traditional way of life of a people who lived successfully on the land for thousands of years before the white man came. Similarly, it is impossible to place a dollar value on Nature.

Finally, it is the view of the Society that man must take a new attitude toward his needs, abandoning the popular growth-for-growth's-sake ethic. If we accept the need for continuing increases in electrical consumption, based on SPC forecasts for the future, by the early part of the next century we will need a new dam every month! These SPC forecasts are to a large extent self-fulfilling, for use will rise to meet production. The Society has been critical of material supplied to the Inquiry by the SPC because none of it comes to grips with viable alternatives. In the opinion of the Saskatchewan Natural History Society, the worst possible policy would be to accept, encourage tacitly, and plan for, ever-increasing use of electricity.

It is misleading to talk glibly of hydro power as a renewable resource. While the water itself is renewable, a dam at Wintego would DESTROY a major portion of the Churchill River, along with its environment and wildlife, which are *not* renewable.

CORRECTION:

Rhamnus cathartica L. Is Not *Prunus nigra* Ait.

KEITH SHAW, Box 364, Cardston, Alberta T0K 0K0

The report of Canada Plum (*Prunus nigra* Ait.) in Alberta was based on material collected without flowers or fruit from south Alberta.[1] [2] The preliminary identification was made from floral manuals only, with later verification through comparison with known *Prunus nigra* material at the Vascular Plant Herbarium of the Canada Department of Agriculture, Ottawa.

Several years later these south Alberta plants flowered and fruited. Much to my dismay, it was not *Prunus nigra,* but an adventive species hitherto unreported for Alberta to which *Prunus nigra* bears an uncanny resemblance, *Rhamnus catharica,* the European Buckthorn. This species was introduced from Europe and is now found growing wild as a coarse shrub or small tree in the valley of Lee Creek at Cardston, Alberta. Two ornamental plantings are now also known for the town of Cardston.

When the plants are in flower or fruit no real difficulty is encountered in correctly identifying European Buckthorn which has flowers small, greenish, perfect, regular, perigynous with an annuar disk; sepals 4; petals much reduced to wanting; stamens 4, inserted on the disk opposite the rudimentary petals; pistil 1, the ovary inserted in the disk, 4-loculed, each locule 1-seeded; fruit juicy, berry-like and bitter.

However, a comparison of vegetative characteristics will show how readily a person unfamiliar with these two species might make an error.

Rhamnus cathartica	*Prunus nigra*
European Buckthorn	Canada Plum
spine-tipped branchlets	thorn-like twigs
no terminal bud	no terminal bud
toothed leaves, thin and fragile	double-toothed leaves, thin and fragile
leaves dark green above, lighter below	leaves dull dark green above, paler beneath
leaves tend toward opposite or clustered	leaves clustered
leaf margin glandular	leaf margin glandular
scaly winter buds	scaly winter buds
twigs slender reddish-brown	twigs slender smooth reddish-brown
bark smooth, dark greyish-brown becoming scaly with age	bark black with greyish lenticels, splitting vertically, scaly with age
short crooked trunk divided at or just above ground	short crooked trunk divided at or just above ground
crown irregular; slender zig-zag branches	crown narrow and flat-topped; slender, twisted, zig-zag branches
small tree or large shrub	small tree

I regret any inconvenience this erroneous report of *Prunus nigra* has caused. I will gladly supply herbarium specimens of south Alberta *Rhamnus cathartica* on request.

[1] CODY, W. J. and SHAW, K. 1973. Canada Plum in southwestern Alberta. Blue Jay 31:217-219.

[2] SHAW, Robert K. 1976. A taxonomic and ecological study of the riverbottom forest on St. Mary River, Lee Creek and Belly River in southwestern Alberta, Canada. Great Basin Naturalist 36:243-271.

Shaggy Mane mushrooms *Wayne Harris*

36th ANNUAL SASKATCHEWAN CHRISTMAS BIRD COUNT — 1977

Compiled by MARY I. HOUSTON, 863 University Drive, Saskatoon, Saskatchewan S7N 0J8

As a result of the boundless enthusiasm of people such as Wayne Harris, Sheila Lamont, Wayne Renaud and Guy Wapple, who separately and together organized counts in 15 localities over the Christmas season, we have an appreciable increase in the number of counts for 1977. Last year's high of 55 localities has been dwarfed by this year's 68. Also commendable was the very thorough report from Togo in which watchers at seven farms recorded their sightings around the yard, at the feeder or on trips in the neighborhood, for every day from December 21 to January 2. These were compiled and submitted by Wanda May, one of the group, and have given us a representative picture of the winter birds of the area.

From the 66 species sighted this year (63 on count day and 3 additionals during count period) no new species were added to the all-time list, so the total remains at 123 for count day with 2 additionals for count period over the years.

Gray-crowned Rosy Finches were reported again this year from Fort Walsh, and also from Eastend-Ravenscrag, Kindersley and White Bear. A Glaucous Gull was again reported, but from Cold River. Golden Eagles in 15 locations (8 in 1976 and 7 in 1975) and Bald Eagles in 8 locations (2 in 1976 and 3 in 1975) indicated an increase especially in the Cypress Hills area where 5 Golden and 4 Bald eagles were reported from Fort Walsh and 1 Golden and 2 Bald eagles from Skull Creek. Bohemian Waxwings were reported in large numbers from North Battleford and Saskatoon areas. White-breasted Nuthatches (14 locations) this year greatly outnumbered Red-breasted Nuthatches (2 locations). Evening and Pine Grosbeaks appeared much more frequently (28 in 1977, 12 in 1976) and (52 in 1977, 10 in 1976), respectively. Redpolls too, were common (53 localities) and in larger numbers than last winter.

This year the results have been organized into four tables: Table 1: participants; Table 2: methods of observation, weather and total individuals; Table 3: species and numbers from more than one locality on count day and in count period; Table 4: species recorded from only one locality on count day.

Two additional features have been included: temperature and snow data for seven localities for November and December as an indication of conditions leading up the Christmas counts (Table 5) and a summary of locations with the largest number of species in each of the last 26 years, compiled by Wayne Renand (Table 6).

Table 1. CHRISTMAS BIRD COUNT PARTICIPANTS

BANGOR. Mrs. A. Thompson

BATTLEFORD-NORTH BATTLEFORD. Pern Cordery, Heywood MacDonnell

BEAVER CREEK. Muriel Carlson, Rita Schilling

BESNARD LAKE. Arnold Nijssen, Tim Stacey, Douglas W. A. Whitfield

BIGGAR. Don Renaud, Wayne Renaud, Adam Schmidt, Guy Wapple, Robert Wapple, Rodney Wapple

BIG GULLY CREEK. (24 km NE of Maidstone). Wayne Harris and Sheila Lamont

BROADVIEW. Don Weidl, Dave Chaskavich

CANDLE LAKE. Wayne Harris, Sheila Lamont

CLARKBORO. Muriel Carlson, Mary Johnston

COLD RIVER. Willie Haras

DALMENY. Ruth Purdy, Gilbert Sperling, Loyd Sperling (compiler), Mara Sperling

DILKE. Margaret Belcher (compiler), Mr. and Mrs. S. R. Belcher

DUCK LAKE. Bob Godwin, Kathy Meers.

DUPEROW-RUTHILDA. Paul de Bussac, Morris L'hoir, Guy Wapple, Rodney Wapple

EASTEND-RAVENSCRAG. George Doulias, Brian Lajeunesse, Gary Seib (compiler), Barbara, Beryl & Peter Shourounis, John Sirounis

EASTEND-RAVENSCRAG. Tom Donald, Mike Gollop (compiler), Rick Jerema, John McIntyre

ENDEAVOUR. Willie Haras

ENDEAVOUR. Barbara, David, Esther and Ronald Hooper

FEUDAL. Adam Schmidt, Guy Wapple

FORT QU'APPELLE. Nellie Hiebert, Ronald Hooper, Joe Kralkay, Lois Lamontagne, Vic Lamontagne, Alice Lang, Doreen Rowell, Lorne Rowell, Shawn Rowell, Lee-ann Sinclair, Dorothy Williams

FORT WALSH. Wayne Harris, Sheila Lamont, Don Renaud, Wayne Renaud (compiler) Guy Wapple

GARDINER DAM. Don and Wayne Renaud

GLAMIS-WISETON. Grev. Jones, David Nevin

GLASLYN-TURTLE LAKE. James Donovan

GRENFELL. Betty and John Hubbard

HAFFORD-BLAINE LAKE. Molly Denson, Ray Denson, Doug Leach, Lynn Oliphant, Bob Rafuse

HAWARDEN. Harold Kvinge

HUMBOLDT. Ed Brockmeyer, Clarence Saretsky, Isabel Saretsky

INDIAN HEAD. Cec and Betty Ashmore, Peter and Therese Barrett, Ernie and Hazel Buglass, Cam, Elizabeth and Shayne Davidson, Cindy Fell, Jim and Jean Howard, Gordon Howe, Rose McLaughlin, Lorne and Joan Scott, Ken and Mary Skinner (compiler)

ITUNA. John Petruka (compiler), Mary Brennan, Brian Ewasienko, Jeffrey Lozinski, Allan Petruka, Yvonne Petruka

KENASTON. P. Lawrence Beckie

KINDERSLEY. Jean Harris

KINDERSLEY. Gerry and Michael Essar

KUTAWAGAN LAKE. (centered 19 km N of Semans) Duane Harding, Wayne Harris, Sheila Lamont

LANGHAM. Vi and Vic Harper

LAST MOUNTAIN LAKE (management unit and immediate area). Wayne Harris, Sheila Lamont

LEADER. Daisy D. Meyers

LUSELAND. Kerry and Kim Finley

MACDOWALL. John, Mary and Stan Shadick

MAIDSTONE BRIDGE (34 km N of Maidstone). Wayne Harris, Sheila and Tom Lamont

MOOSE JAW. Alice and Carl Ellis, Doug Francis, Ruth Hilling, John Horton, Pat Kern, Cy and Leith Knight (compiler), Moray Lewis, Robert Pearson, Molly Ritchie, Sister Theresa and Jean Thomson

MOOSE MOUNTAIN PROVINCIAL PARK. Autumn Downey, Jim Hines

NORTH BATTLEFORD. James Donovan

PIKE LAKE. Mr. and Mrs. Christensen, John, Mary and Stan Shadick

PIKE LAKE. Wendy Boehm, Bob Godwin, Ken Lumbis, Al, Bonnie and Edward Smith

PRINCE ALBERT. Wayne Harris, Sheila Lamont

PRINCE ALBERT NATIONAL PARK. Stuart Heard, David Henry, Suzanne Henry (compiler), Mike Jones, Virginia Plummer, Mervyn Syroteuk, Bruce Wilson, Pat Wilson, Charlie Zinkan, Marianne Zinkan

RAYMORE. Chas., Greta and Wayne Harris, Sheila Lamont

REGINA. Gary Anweiler, Jessie Bailey, Margaret Belcher, Tom Beveridge, Howard Biliak, Frank Brazier, K. Costain, Betty Cruikshank, Robyn Donison, Autumn Downey, J. G. Ducreux, Mr. and Mrs. George Forsythe, Wayne Gemmell, Jim Hines (compiler), Roger Howard, Jim and Shirley Jowsey, Ernie and Elizabeth Kassian, Darlene Kauk, Greg Kraetzig, Bob Kreba, Tony Lang, George Ledingham, Rita Leflar, Bob Luterbach, Wayne Lynch, Mrs. G. McKay, Sally Moss, Brad Muir, Eric Roberts, Joe Roberts, Diane and Allan Smith, C. Wilhelm, Pierre Wilhelm

ROSETOWN. Don and Wayne Renaud

ROUND LAKE. Doug Francis, Bill Middleton

SALTCOATS. Robert Barnhart

SASKATOON. Juhachi Asai, Bob, Garth, Joan and Joyce Besant, Ron Bobowski, Andre Bouthillette, Ron and Muriel Bremner, Nigel Caulkett, Ian Creurer, Maureen DuWors, Alan, Arthur, Hartley and Lawrence Fredeen, Geof and Muriel Galloway, Bob Godwin, Bernie and Madeleine Gollop, Bruce and John Hanbidge, C. J. David, Donald, Mary and Stuart Houston, Andrew and Charles Hope, Sandra and Tony Johns, Don and Jo McRobbie, David Miller, Betty Mundy, Pat O'Neil, John Polson, John and Stan Shadick, Jim Slimmon, Alan and Ed Smith

SCOTT. Don and Wayne Renaud, Guy Wapple

SKULL CREEK. Jim Bennetto

SKULL CREEK. Jim Bennetto, Sybella and Austin Drever, Phyllis Flaig, Betty and Patty Mann, Ray and Michelle Schuler

SOMME. David Black, Donald and Ronald Hooper

SPIRIT LAKE. Bill and Joyce Anaka

SPRING VALLEY. Adeline and Allan Bogdan, Flossie and Nick Bogdan

SQUAW RAPIDS-CUT BEAVER. John Comer, Terry Klassen

TOGO. Phil and Jean Hern, Vic and Olga Hilderman, Walter and Ethel Krupp, Cusie and Wanda May (compiler), Dick and Mary Smith, Howard and Donelda Wilson, Orville and Elaine Wilson

VALLEY CENTRE. Guy Wapple

WHITE BEAR. Bill Fox, Tim Fox, Laine Jordheim, Sig Jordheim, Mark Lowe, Doug Stepples, Doug Strom

WHITEBEECH. Lindsay Wotherspoon

WOLSELEY. J. Donald Hayward, Doreen Hayward

YORKTON. Gerry and Michael Essar

Table 2. CHRISTMAS COUNT METHODS OF OBSERVATION, WEATHER AND TOTAL BIRDS

Place	Car		Foot		Other		Feeder	Temp °C	Wind		Snow Cover	Sky	Count Day Number Individuals
	KM	HR	KM	HR	KM	HR			DIR	KM/H	CM		
Bangor	14							-20		0			59
Battleford —													
North Battleford	56	3						-20		light	15		2561
Beaver Creek					on skis			-6				sunny	43
Besnard Lake	24	½	3	1½									51
Biggar	159	9	16	8	snowmobile 45	6		-12 to -16	WNW	8-24	10-40	mostly cloudy	2932
Big Gully Creek	56	3	5	2	on skis 8	2		-16 to -10	NW	20-25	45	overcast	586
Broadview	147	3			on snowshoes 7	4		-20		0		mostly cloudy	810
Candle Lake	56	2	16	6				-31 to -18	NW	15-20	25	overcast	141
Clarkboro					on skis 5			-9	NW	moderate		cloudy	29
Cold River	24	1			on snowshoes 6	3		-15	NW	25	40	overcast light snow	106
Dalmeny					on skis 27			-12 to -14	S	light		overcast light snow	274
Dilke	26	2	2	1½	on skis 3	2		-8 to -10	NW	0 to light			231
Duck Lake	32				on skis 6	2½							82
Duperow —	145	4½	10	4½	snowmobile			-10 to -14	W	8-24	15-45	clear	2205
Ruthilda					7	½							
Eastend —	64	2½	5	2				-10					492
Ravenscrag													
Eastend — Ravenscrag	166		16					-16 to -26	WNW	24		mostly clear	875
Endeavour					around farm yard			-34 to -8		0	36	clear	585
Endeavour	48	1						-18		0		sunny	61
Feudal	93	4	4	1½				-8	N	35-45	25-40	mostly clear	1493
Fort Qu'Appelle	96	4						-18		0	46	cloudy	481
Fort Walsh	81	3	42	24				-8 to -10	NW	15-20	5-45	overcast some snow	3129

Table 2. CHRISTMAS COUNT METHODS OF OBSERVATION, WEATHER AND TOTAL BIRDS

	Car		Foot		Other		Feeder	Temp °C	Wind		Snow Cover	Sky	Count Day Number Individuals
Place	KM	HR	KM	HR	KM	HR			DIR	KM/H	CM		
Gardiner Dam	40	2	7	3				-11 to -14	W	8-16	40	overcast	797
Glamis —	51	2	2	1				-24 to -20		0		partly	147
Wiseton												sunny	
Glaslyn —	24	1			snowshoes			-15	W	15-20		overcast a.m.	327
Turtle Lake					8	4						sunny p.m.	
Grenfell	10				on skis 3			-23	W	16	36		110
Hafford —	117	3½	3	1	on skies			-28 to -20					508
Blaine Lake					5	2							
Hawarden													2
Humboldt	32				on skis 9			-10		0		sunny	78
Indian Head	16	1	2	1	by tractor 8	2		-10		light	55	overcast	1076
Ituna	35												210
Kenaston		5							SW	Light	25	Light Overcast	67
Kindersley	14		2					-18		0	20	Sunny	49
Kindersley					Back Yard In Town								126
Kutawagan Lake	48	2			Snowshoes 6	3		-20 to -18	SE	10	40	Overcast	164
Langham					Farm Yard								70
Last Mountain Lake	128	5	3	2				-24 to -18	NW	15-30	40	Sunny	1710
Leader				4				-4		0	40	Clear	112
Luseland	100	3	10	4				-15	NW	5	30-35	Light Overcast	858
MacDowall	59	5						-19				Clear	216
Maidstone Bridge	88	4	6	4				-16 to -9	NW	12	45	Overcast	960
Moose Jaw	180		11					-10		Light	15	Sunny	1591
Moose Mountain	78	6	1	½	On Skis 13	4		-30 to -25		0 to 10	25-50	Cloudy Clearing	111
North Battleford			8	5				-15		Light			360
Pike Lake	40	3					5 Hr.						2051
Pike Lake	24	1½	3	1½	On Skis 5	2							498
Prince Albert	136	4	8	3				-30 to -24	NW	15	25	Mostly Clear	1769
Prince Albert	90		43					-23 to -18	NNW	5-10	25	Overcast	86
National Park												Clearing	
Raymore	176	7	3	1	Skis + Snowshoes 7	3		-22 to -10	SE	0 -10	50	Fog Brief Sun	962
Regina	544	39	61	27				-11 to -8	NW	25-50	25-50	Overcast Light Snow	6406
Rosetown	48	2	2	1				-21	NW	8-24	40	Clear	282
Round Lake	80	4	3	3									422
Saltcoats	66	3½					2	-15		0		Overcast	269
Saskatoon	265	42½	36	33	On Skis 15	13	16 Hr.	-26 to -18	SW	8-15	16	Overcast	11,843
Scott	121	5½	7	4½				-6 to -11	W	8-40	40	Overcast	1,092
Skull Creek													993
Skull Creek					Snowmobile + Skis			-14				Light	933
Somme	104	2	10	3				-12		Moderate	30	Overcast	405
Spirit Lake	88	4½	3	2				-12 to - 10		Calm to Light	35	Overcast	336
Spring Valley	58	1½			Around Yard	1		-20	W	Light	60	Cloudy	558
Squaw Rapids—	80	2	2	2				-15 to -20		Light		Overcast	278
Cut Beaver													
Togo							7						461
Valley Centre	97	4	5	2½				-8 to -14	W	5-30	10-30	overcast	1839
Waseca					farmstead & marsh					light		partly sunny	92
Webb	112	4	5	1½				-15		light		mostly sunny	107
White Bear								-12	NNE	10		snowing	47
Whitebeech	3	2											17
Wolseley								-18		0	39		374
Yorkton	128											snow	126

Table 3. BIRDS RECORDED FROM MORE THAN ONE LOCALITY ON CO DAY AND IN COUNT PERIOD(+)

	Bangor Jan. 3	Battleford-North Battleford Dec. 26	Beaver Creek Jan. 2	Besnard Lake Dec. 28	Biggar Dec. 23	Big Gully Creek Dec. 23	Broadview Dec. 31	Candle Lake *Dec. 26	Clarkboro Dec. 27	Cold River * Dec. 31	Dalmeny Dec. 27	Dilke Dec. 17	Duck Lake Jan. 2	Duperow-Ruthilda Jan. 2	Eastend-Ravenscrag Dec. 26	Eastend-Ravenscrag *Jan. 1
Canada Goose																
Mallard										13					+1	
Redhead																
Common Goldeneye										3						
Common Merganser										2						
Goshawk								1			1					1
Golden Eagle					1		1							+1	+1	1
Bald Eagle					+1					1						
Gyrfalcon																
Prairie Falcon															2	1
Merlin					1											1
Ruffed Grouse	1							8		1			1			
Sharp-Tailed Grouse					99	1	43				10	+14		10		1
Sage Grouse															2	+35
Ring-Necked Pheasant							1					1			1	+7
Gray Partridge					27	+6	5				+5	12		80	4	25
Rock Dove		34			63	+1	13					12		60	+11	22
Great Horned Owl		1			3		+1	1						1		1
Snowy Owl					+1	1					1			2		1
Hawk Owl		2														
Great Gray Owl				1				1								
Saw-Whet Owl																
Common Flicker																
Pileated Woodpecker						1										
Hairy Woodpecker	2				1	1	3	1			1	1			+1	2
Downy Woodpecker	1	1	1		1	2	+1	2	1					+1	2	1
Bl-Bk 3-T Woodpecker																
North 3-T Woodpecker				+1												
Horned Lark					50							2			68	6
Gray Jay								12		2			4			
Blue Jay					+1	4	1	1					1			
Black-Billed Magpie	1	6	2		160	21	61	15	1	1	6	1		148	60	129
Common Raven				50				57		5	+1		3			
Black-Cap Chickadee	4		15	+1	6	4	16	8	2		1		7	9	7	52
Boreal Chickadee								11					3			
Wh-Breast Nuthatch																
Red-Breast Nuthatch																
Brown Creeper													1			
American Robin															+2	2
Bohemian Waxwing		2500			162		+36				+30			2	225	30
Cedar Waxwing																
Northern Shrike											1					
Starling					5		20							6	+1	44
House Sparrow		11			1218	30	30				40	100		1586	64	330
Rusty Blackbird																1
Evening Grosbeak		4				+2	5									
Pine Grosbeak		2			19	13	35	11			19	+1	2	36	20	38
Gray-Cr Rosy Finch																+6
Hoary Redpoll					3	3	+5							2		
Common Redpoll			25	+60	595	142	93	10		53	44	2	60	204	37	185
Dark-Eyed Junco																
Tree Sparrow																
Lapland Longspur																
Snow Bunting	50				518	363	483	1	25	24	150	100		55		1
Count Day Species	6	9	4	2	18	13	15	16	4	11	11	9	9	15	12	22
Count Period Species	6	9	4	5	21	16	19	16	4	11	14	11	9	17	18	27

* See also list of species recorded from 1 location only.

+ Species seen during count period (Dec. 17, 1977—Jan. 2, 1978) but not on count day.

	Endeavour *Dec. 28	Feudal *Jan. 1	Fort Qu'Appelle Dec. 31	Fort Walsh *Dec. 18	Gardiner Dam Dec. 21	Glamis — Wiseton Dec. 26	Glaslyn — Turtle Lake Jan. 1	Grenfell Dec. 26	Hafford — Blaine Lake Dec. 26	Hawarden Dec. 29	Humboldt Jan. 2	Indian Head Dec. 18	Ituna Dec. 31	Kenaston Dec. 28	Kindersley Dec. 29	Kindersley Dec. 22	Kutawagan Lake Dec. 31
Canada Goose																	
Mallard			+2		130							10					
Redhead																	
Common Goldeneye					15												
Common Merganser					3												
Goshawk				1					2								
Golden Eagle				5													2
Bald Eagle				4	1							1					
GyrFalcon																	
Prairie Falcon																	
Merlin																	
Ruffed Grouse			1	2			1	+1				3	+4				
Sharp-Tailed Grouse			4	21		2			19		5		40	5			2
Sage Grouse				+2													
Ring-Necked Pheasant				12													
Gray Partridge		9	5	5	12	20		+9			+5	+10	+2	21			
Rock Dove		3	30	3	15	18		+1	8			3	25	2	2		6
Great Horned Owl		1	+1	1			1				1	+2					
Snowy Owl		+1		1		2					+1	1			1		+1
Hawk Owl																	
Great Gray Owl																	
Saw-Whet Owl												1			+1		
Common Flicker																	
Pileated Woodpecker																	
Hairy Woodpecker			2	2	1			1	2		1	5					
Downy Woodpecker			1	4			1	+1	1			9					1
Bl-Bk 3-T Woodpecker																	
North 3-T Woodpecker				5													
Horned Lark		46	+1	90				+1									2
Gray Jay	2						3					+2					
Blue Jay	1		1	1							+1	+3					
Black-Billed Magpie	2	48	35	208	18	5	2	1	20		4	13	4	7	4		21
Common Raven	3						16		2								
Black-Cap Chickadee		3	40	80	8		3	2	7	1	7	20	+7		1		1
Boreal Chickadee																	
Wh-Breast Nuthatch			+1									1					
Red-Breast Nuthatch																	
Brown Creeper				3								1					
American Robin			1									1					
Bohemian Waxwing		75	148	5	360			+15	95	+60		200			11	123	
Cedar Waxwing																	
Northern Shrike			1	2					2			+1					1
Starling		2	9		6			+4									1
House Sparrow	19	702	75	365	45	100		100	20	+8	12	700	91	25	20		82
Rusty Blackbird				5													
Evening Grosbeak		6	20	4	17			+2	2			15	+2				
Pine Grosbeak	1	6	79	39	35			6	17	1	1	6		4		3	
Gray-Cr Rosy Finch				23												+2	
Hoary Redpoll		13	2	8													
Common Redpoll		250	22	310	131				44		22	10			8	1	
Dark-Eyed Junco																	
Tree Sparrow				3													
Lapland Longspur				1													
Snow Bunting	32	329	5	1898			300		267		25	75	50	3	20		44
Count Day Species	8	14	19	34	15	6	8	5	15	2	9	19	5	7	8	2	12
Count Period Species	8	16	23	35	15	6	8	13	15	4	12	24	9	7	9	3	13

	Langham Dec. 21	Last Mountain Lake Dec. 29	Leader Dec. 28	Luseland Dec. 21	Macdowall Dec. 23	Maidstone Bridge Dec. 22	Moose Jaw Dec. 26	Moose Mountain Provincial Park Dec. 31	North Battleford Dec. 27	Pike Lake Dec. 31	Pike Lake Dec. 27	Prince Albert Dec. 25	Prince Albert National Park Dec. 29	Raymore Dec. 30	Regina *Dec. 27	Rosetown Dec. 20
Canada Goose															1174	
Mallard															304	
Redhead															1	
Common Goldeneye															2	
Common Merganser																
Goshawk						1										
Golden Eagle				+1			+1									
Bald Eagle						1										
Gyrfalcon															+1	+1
Prairie Falcon							2								1	
Merlin										1		1			2	
Ruffed Grouse						2		3			+1	1	3	1		
Sharp-Tailed Grouse	8	73	21	2		21	14				+1			2	2	
Sage Grouse																
Ring-Necked Pheasant	6		11				9								1	
Gray Partridge	4	43	12	36		+7	32					7		3	130	
Rock Dove		1		15		9	127		26			241		15	409	25
Great Horned Owl						2	+2	2			1	+1	+2	1		
Snowy Owl				1			1								1	1
Hawk Owl																
Great Gray Owl													2			
Saw-Whet Owl				1												
Common Flicker															2	
Pileated Woodpecker																
Hairy Woodpecker	+1					1	3	6	3	3	2	1	1	3		
Downy Woodpecker				1		2	3	3	1	9	4	2	3	4		
Bl-Bk 3-T Woodpecker												1				
North 3-T Woodpecker													+1			
Horned Lark				14											12	+20
Gray Jay					1		+1					2	8			
Blue Jay	2			2	3	7		12	1	4	9	1	2	2		
Black-Billed Magpie	2	71	23	27	10	24	39	7	6	8	15	63	6	35	24	2
Common Raven					35							87	6			
Black-Cap Chickadee	7	1		1	9	12	8	42	6	12	12	20	9	18	9	
Boreal Chickadee												10	2			
Wh-Breast Nuthatch					1		1	7		+1	2		1		1	
Red-Breast Nuthatch																
Brown Creeper												2				
American Robin							1			50	72				5	
Bohemian Waxwing	15			31			429		250	1750	194	491		+15	1226	80
Cedar Waxwing				+1							1					
Northern Shrike				+1										+1	1	
Starling		1					2					4			63	
House Sparrow	+6	410	45	385	56	130	880		36	30	2	40	4	370	2426	169
Rusty Blackbird																
Evening Grosbeak		1		4	3					163	49	174		16		
Pine Grosbeak	14	7		52	2	33	10	7	19	17	83	204	4	5	70	5
Gray-Cr Rosy Finch																
Hoary Redpoll		10				4	6					2		6	12	
Common Redpoll	12	115		286	56	167	17	22	12	4	52	223	35	126	343	
Dark-Eyed Junco							4								1	
Tree Sparrow																
Lapland Longspur							1									
Snow Bunting		977		+1600	40	544	2					192		355	176	+180
Count Day Species	9	12	5	15	11	16	21	10	10	12	14	22	14	16	28	6
Count Period Species	11	12	5	19	11	17	24	10	10	13	16	23	16	18	29	9

	Saltcoats Dec. 29	Saskatoon Dec. 26	Scott Dec. 27	Skull Creek Dec. 26	Skull Creek Dec. 30	Somme Dec. 27	Spirit Lake Dec. 28	Spring Valley Dec. 31	Squaw Rapids — Cut Beaver Dec. 30	Togo Jan. 1	Valley Centre *Dec. 31	Waseca Dec. 31	Webb Dec. 26	White Bear Dec. 29	Whitebeech Dec. 27	Wolseley Dec. 28	Yorkton Dec. 27	No. of Localities on Count Day	No. of Localities in Count Period
Goose								+1										1	2
d		14							22									6	8
d		2																2	2
n Goldeneye		134							45									5	5
n Merganser		1							4									4	4
k		1				1	+1											8	9
Eagle			1	1				+1			1			1				10	15
gle				2					2									7	8
con																		0	2
Falcon				1														5	5
		6					1							1				8	8
Grouse		4				1	1			1		9				5		19	22
ailed Grouse	15	83	2	18	71	16	6	26		5	6					6		34	36
rouse																		1	3
cked Pheasant		35		9	11									1				13	14
rtridge		58	14	23	53		14	83		10	104		34	14		8		31	39
ove		981	39	7	13	+4	+2	26			3		8			25		34	39
orned Owl	2	7	1	1			+1	+1			2	+1				+1		18	29
Owl		1	2					+1					1					15	20
wl		1							1									3	3
ray Owl																		3	3
et Owl		+1																2	4
n Flicker		1																2	2
Woodpecker										1								2	2
oodpecker	4	8	1		2	5	7			7		3		1	3	2		37	39
Woodpecker	5	22		4	4		9			5		2			2	1		35	39
T Woodpecker						3												2	2
T Woodpecker						8												3	5
Lark			3	+400	7			8			15		40					15	19
/		+1				3	1		1	4					3			13	17
	4	35				9	1			66		3						25	28
lled Magpie	4	329	49	16	26	18	22	7	9	+4	79	2	2	2	1	6	5	63	64
n Raven						38	+1		26	2					1			15	17
p Chickadee	26	131	8	6	21	6	42		3	39	3	4			7	4		53	55
hickadee						3				2								6	6
st Nuthatch	1	3					2			+1								11	14
st Nuthatch		2										+1						1	2
reeper																		4	4
n Robin		19		1										+1				9	11
n Waxwing	2	4980	16	163	353		+1	+18			188		10	25		+1	25	31	40
axwing		3											+3					2	4
Shrike		4							+1									7	11
		96						6					+1					14	17
parrow	50	1945	274	185	177	62	208	360		49	925		12			100		50	52
ackbird																		2	2
Grosbeak	30	65		4	6	10	2			292		+10				6		24	28
sbeak	6	247	93	67	20	2	2			10	7	30	+22			+7		49	52
Rosy Finch														+1				1	4
dpoll		16	1			2				1	27							18	19
Redpoll	30	2453	229	285	93	41	17	9	15	26	463	4	+17	2		3		51	53
d Junco		+1								1								3	4
rrow		2																2	2
Longspur																		2	2
nting	90	154	359	100	76	177	1	33	150	+300	15	35	+20			208	83	44	49
y Species	14	34	16	18	15	18	16	9	11	17	15	9	7	8	6	12	3		
riod Species	14	37	16	19	15	19	21	15	11	20	15	12	12	10	6	15	3		

1. Bangor
2. Battleford-North Battleford
3. Beaver Creek
4. Besnard Lake
5. Biggar
6. Big Gully Creek
7. Broadview
8. Candle Lake
9. Clarkboro
10. Cold River
11. Dalmeny
12. Dilke
13. Duck Lake
14. Duperow-Ruthilda
15. Eastend-Ravenscrag
16. Eastend-Ravenscrag
17. Endeavour
18. Endeavour
19. Feudal
20. Fort Qu'Appelle
21. Fort Walsh
22. Gardiner Dam
23. Glamis-Wiseton
24. Glaslyn-Turtle Lake
25. Grenfell
26. Hafford-Blaine Lake
27. Hawarden
28. Humboldt
29. Indian Head
30. Ituna
31. Kenaston
32. Kindersley
33. Kindersley
34. Kutawagan Lake
35. Langham
36. Last Mountain Lake
37. Leader
38. Luseland
39. MacDowall
40. Maidstone Bridge
41. Moose Jaw
42. Moose Mountain Prov. Park
43. North Battleford
44. Pike Lake
45. Pike Lake
46. Prince Albert
47. Prince Albert Nat. Park
48. Raymore
49. Regina
50. Rosetown
51. Round Lake
52. Saltcoats
53. Saskatoon
54. Scott
55. Skull Creek
56. Skull Creek
57. Somme
58. Spirit Lake
59. Spring Valley
60. Squaw Rapids-Cut Beaver
61. Togo
62. Valley Centre
63. Waseca
64. Webb
65. White Bear
66. Whitebeech
67. Wolseley
68. Yorkton

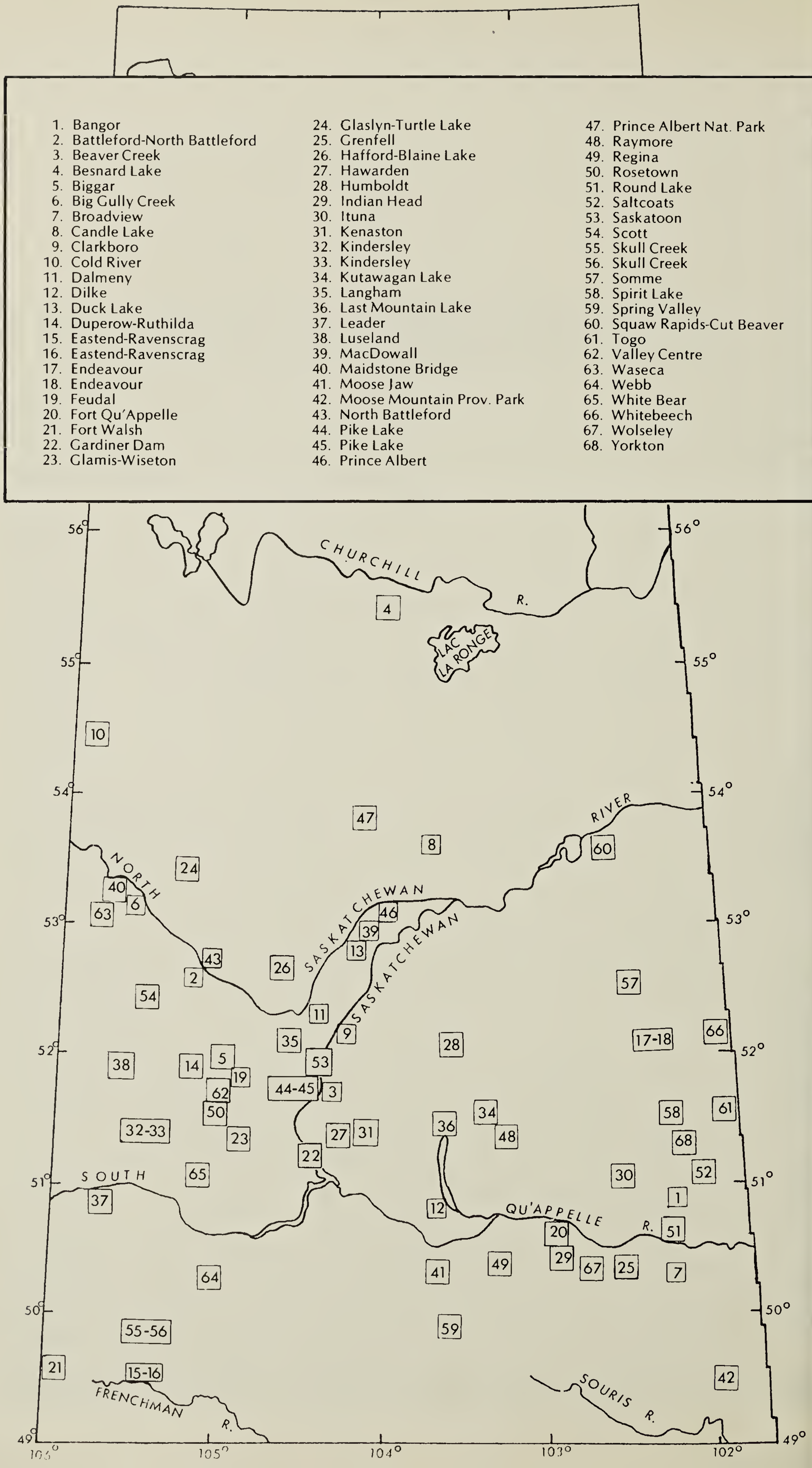

Table 4. SPECIES RECORDED FROM ONLY ONE LOCALITY

No-	*Species*	*Locality*	*Map No.*
1	Horned Grebe	Regina	49
7	Lesser Scaup	Regina	49
1	Sharp-Shinned Hawk	Eastend-Ravenscrag	16
1	Peregrine Falcon	Eastend-Ravenscrag	16
1	Spruce Grouse	Candle Lake	8
1	Glaucous Gull	Cold River	10
1	Barred Owl	Endeavour	18
1	Boreal Owl	Valley Centre	62
1	Townsend's Solitaire	Fort Walsh	21
8	Golden-Crowned Kinglet	Fort Walsh	21
3	Redwinged Blackbird	Fort Walsh	21
6	Red Crossbill	Fort Walsh	21
1	Eagle Sp	Feudal	19

Table 5. SASKATCHEWAN TEMPERATURE AND PRECIPITATION November-December, 1977*

	TEMPERATURE (°C)		PRECIPITATION (mm)			
	Mean	Difference from Normal	Snowfall	Total Precipitation	Percent of Normal	Snow on Ground at Monthend
Swift Current	Nov. — 5.5	*— 1.8*	136	14.4	*75%*	70
	Dec. —15.0	*— 5.3*	421	48.6	*254%*	270
Regina	Nov. — 7.3	*— 1.7*	100	13.8	*85%*	80
	Dec. —17.9	*— 5.0*	314	26.2	*161%*	320
Broadview	Nov. — 5.7	*— 0.2*	130	15.2	*88%*	50
	Dec. —18.8	*— 5.5*	396	33.2	*246%*	250
North Battleford	Nov. — 6.9	*— 1.0*	107	10.9	*62%*	100
	Dec. —19.0	*— 5.0*	354	31.0	*154%*	350
Saskatoon	Nov. — 7.0	*— 1.2*	120	16.0	*62%*	80
	Dec. —19.3	*— 5.3*	299	28.1	*154%*	150
Prince Albert	Nov. — 8.0	*— 0.9*	152	18.3	*89%*	80
	Dec. —21.1	*— 4.7*	264	24.5	*111%*	203
Hudson Bay	Nov. — 6.6	+ 0.5	222	21.9	*76%*	160
	Dec. —20.5	*— 4.1*	304	25.2	*122%*	290

* From Canadian Weather Review

Table 6. HIGHEST SPECIES COUNTS IN SASKATCHEWAN 1942-1977

List of high species counts for each year. Additional species seen during count period are given in parentheses after the count-day total. Where another count recorded more species during count period than did the "high count" locality, the former is listed in square brackets.

1942/43	Nipawin 18
1943/44	Nipawin 15
1944/45	Nipawin 18 [Skull Creek (19)[1]]
1945/46	Wallwort 20 (2)
1946/47	Torch River 17
1947/48	Skull Creek 17 [Torch River (21)[2]]
1948/49	Nipawin/Fishing Lakes 25
1949/50	Nipawin 17
1950/51	Nipawin 12 [Skull Creek (19)[1]]
1951/52	Nipawin 14 (8)
1952/53	Nipawin 24 (3)
1953/54	Yorkton 20(2) [Somme 15 (10)]
1954/55	Yorkton 20 [Nipawin/White Gull Ck. 17 (13)] [Saskatoon 15 (13)[3]]
1955/56	Saskatoon 23 [Regina 21 (7)]
1956/57	Regina 21 (4)
1957/58	Regina 24 (5)
1958/59	Saskatoon 23 (2)
1959/60	Regina 23
1960/61	Regina 34 (9)
1961/62	Regina 37 (2)
1962/63	Regina 34 (8)
1963/64	Regina 29 (12)
1964/65	Regina 37 (4)
1965/66	Regina 31 (6)
1966/67	Regina 36
1967/68	Regina 36 (3)
1968/69	Saskatoon 36 (2)
1969/70	Regina 37 (3)
1970/71	Regina 33
1971/72	Regina 33
1972/73	Regina 32 (4)
1973/74	Regina 40 [Saskatoon 39 (2)]
1974/75	Saskatoon 42 (3) [Regina 38 (14)]
1975/76	Regina 47
1976/77	Regina 38 (1)
1977/78	Saskatoon 34 (3) Fort Walsh 34 (1)

[1] number of species observed during Christmas week
[2] December 20 to January 2
[3] 3 Saskatoon counts combined

ADDITIONAL COUNTS*

CANORA

Date: December 31, 1977.

Weather: Cloudy; temperature minus 15°C.

Area: Walked 3 km, by car 7 km.

Birds Seen: Sharp-tailed Grouse, 8; Gray Partridge, 10; Great Horned Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 2; Northern 3-toed Woodpecker, 2; Blue Jay, 8: Black-capped Chickadee, 6; White-breasted Nuthatch, 1; Evening Grosbeak, 50; Pine Grosbeak, 20. TOTAL 11 species, 110 individuals. (Add: Snowy Owl, 1; Bohemian Waxwing, 10; House Sparrow, 15; Snow Bunting, 20; all on January 2, 1978.)

Contributors: Alfred & Vicky Tataryn.

SNOWDEN

Date: December 28, 1977.

Weather: Overcast; temperature minus 15°C.

*EDITOR'S NOTE: The results of the counts in Canora and Snowden were received after Mary Houston compiled the others. The Pine Siskins at Snowden raise the total species sighted this year to 67.

Area: Walked 2 km, by car 10 km.

Birds Seen: Black-billed Magpie, 2; Common Raven, 3; Black-capped Chickadee, 3; House Sparrow, 6; Pine Grosbeak, 45; Common Redpoll, 60; Pine Siskin, 2; Snow Bunting, 7. TOTAL 8 species, 130 individuals.

Contributors: J. Soroka (compiler), W. Wizniuk.

FORT SMITH, N.W.T. CHRISTMAS BIRD COUNT

Date: December 27, 1977

Weather: Overcast with ice fog; temperature —16° Celsius; calm; snow depth approx. 25 cm; daylight 0900 hrs. to 1600 hrs.

Routes Covered: Fort Smith west along N.W.T. Highway 5 to Fox Holes Road intersection; Fort Smith south along Pine Lake Road to Salt River; Fort Smith east along Hay Camp Road to Wood Buffalo National Park Border. 160 km in 3.5 hours.

Birds Seen: Spruce Grouse, 1; Willow Ptarmigan, 13; Sharp-tailed Grouse, 1; Gyrfalcon, 3; Hairy Woodpecker, 1; Downy Woodpecker, 1; Northern 3-toed Woodpecker, 1; Gray Jay, 25; Common Raven, 193; Pine Grosbeak, 2; Unidentified Redpolls, 60; Snow Bunting, 1; Black-capped Chickadee, 11; Boreal Chickadee, 1. TOTAL: 14 species, 314 individuals.

Contributors: Nancy & Ian Church, Bob Lewis, Jon Lewis, Joe Benge & Jill Schwartz, Harold Pankratz, Denis Cook, Chris Jalkotzy, Carl, Jan & Sean Lentowicz, Bernie & Joy Lieff, Murray Garnett, Linda & Dan (compiler) Graham.

Sharp-tailed Grouse *Gary W. Seib*

PELICANS, CORMORANTS AND GREAT BLUE HERONS IN SASKATCHEWAN IN 1976

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ABSTRACT. During the summer of 1976, a survey of colonial nesting species was conducted for the Museum of Natural History. Emphasis was placed on the White Pelican, Double-crested Cormorant and Great Blue Heron.

The survey indicated a slight reduction in the overall pelican population in Saskatchewan with significant changes within individual colonies. The cormorant seems to be enjoying more success than the pelican and appears to be slowly increasing in numbers.

The population status of the Great Blue Heron was not determined due to insufficient censusing.

Further surveys are needed to constantly monitor colonial bird status within the province.

Additional provincial legislation for greater protection of pelican and cormorant colonies is urgently required.

INTRODUCTION. "But the pelicans stood silent and dignified until they decided to leave and then, as if by one common impulse, they all rose at once with a great flapping of long black-tipped wings; they seemed heavy, awkward, and ungainly at first, but they soon gained headway and showed their marvelous mastery of the air, as they swung into line forming one large V-shaped flock; they circled around the island two or three times, with slow and dignified wing beats in military precision, or all scaled in unison like well-drilled soldiers; and finally, when satisfied that they must leave and when fully arranged in proper marching order, they all followed their leader and departed northward over the lake; the last we saw of them they were flying in a long straight line, just above the horizon, their black-tipped wings keeping perfect step and their snowy plumage showing clearly cut against the cold gray sky even when miles away. It was a fascinating spectacle to stand and gaze at that departing flock of magnificant birds and to dream of nature's wonders, the marvels of creation, which only those may see who seek the solitudes of remote wilderness lakes."[1]

This early descriptive account of White Pelicans taking wing can still be enjoyed in all its grandeur today. But how long will this enjoyment last? The remote wilderness lakes where many of the pelicans have nested for years are quickly becoming polluted by human activity. This holds true for many of the other colonial nesting species as well. Decreasing the remoteness of the breeding areas can have a detrimental effect on the overall production. Human interference and disturbance has been the main factor in the decline or disappearance of some former breeding colonies.

Colonial nesters such as White Pelicans, Double-crested Cormorants, and Great Blue Herons are nervous birds and quite unprotective of their eggs or young. As a result, they are extremely prone to nest desertion and, consequently, breeding success may be reduced considerably or there may be no productivity whatsoever.

Saskatchewan accommodates a signifiant percentage of some of the colonial species nesting in Canada. For example, in 1968, approximately 47 per cent of all the White Pelican nests in Canada were in Saskatchewan.[5] It is imperative then that close vigilance be

White Pelicans *Fred W. Lahrman*

kept on the status of colonical nesters, in particular those species that are extremely susceptible to nest desertion.

The White Pelican's status has gone unchecked since 1971, Double-crested Cormorants since 1968, and Great Blue Herons since 1970.[2 6 7] Acknowledging the delicate situation and nature of the birds, I undertook to survey as many existing colonies as possible. Extreme care was exercised in counting the birds so as to minimize disturbance.

Other colonial nesters, such as gulls and terns, were noted whenever possible. However, since these species can tolerate a high level of disturbance and since they actively defend their eggs and young, their population levels do not appear to be in jeopardy at this time. Consequently, I did not concern myself with extensively surveying them. However, since no surveys have been made to determine the size and distribution of gull and tern populations in Saskatchewan, a study would be most beneficial in the near future.

METHODS. I conducted my field work from May 13 to July 8, 1976. Methods for surveying varied from shank's mare, canoe and inflatable boat to airplane.

The Great Blue Heron colonies in the southern part of the province were checked first. The heron, pelican and cormorant colonies to the north were checked later, allowing ample time for the birds to establish themselves.

The majority of the heron colonies were examined by driving to the general vicinity, walking to the colony and counting the number of nests. Nests containing adult birds were considered active and those nests containing no birds or in a dilapidated condition were considered non-active.

Table 1 — WHITE PELICAN COLONIES SURVEYED IN 1976

Location	Date	Adults	Nests	Eggs	Young
1) Old Wives Lake (Sec. 28, 29, 32 & 33, T13, R29, W2)	June 17	2,600	1,420	2,498	4,773
2) Quill Lakes (Sec. 27 & 28, T34, R16, W2)	June 30				
— Colony a (island)			20	30	41
— Colony b (north shore)		459	118	67	300
3) Primrose Lake (Sec. 11, T69, R25, W3)	July 2		439 (2,313)*	338	4,287
4) Suggi Lake (T62, R5 & 6, W2)	July 6				
— Colony a (east island)		235	143		
— Colony b (west island)		300	182		600
5) Kazan Lake (Sec. 13, T76, R16, W3)	July 7	550	275		
6) Redberry Lake** (Sec. 1, T43, R9, W3)	June 29	70	19 (89)*	3	175
7) Last Mt. Lake	June 10		(no longer active)		
8) Cumberland Lake	July 6		(no longer active)		
9) Doré Lake	July 7		(no longer active)		
10) Cypress Lake** (Sec. 17, T6, R26, W3)	June 28		(no longer active)		
		4,214	4,560	2,936	10,176

*Combining the number of young and eggs and dividing by two which is the average number of eggs per nest, I arrived at this approximate number of nests.[3]

**Surveyed in 1977.

The pelican and cormorant colonies could only be reached by boat or airplane. If California or Herring Gulls were nesting near the pelicans or cormorants, counts were taken from a distance to reduce the risk of gull predation. On extremely hot, cold or stormy days, counts were not attempted in order to prevent mortality from exposure.

OBSERVATIONS. During the course of the survey, a total of 39 colonies was investigated; 10 White Pelican, 9 Double-crested Cormorant and 20 Great Blue Heron. Details are given in Tables 1 to 3.

(a) **White Pelican:** Ten pelican areas were checked of which four no longer contained any evidence of nesting. These were Last Mountain Lake, Doré Lake, Cumberland Lake and Cypress Lake (Table 1). Lavallée Lake was checked in 1975 by G. Trottier and R. Breneman.[4] They counted 1,293 nests and indicated that this represented virtually no change over the last few years, so I felt it unnecessary to check the colony again in 1976.

Taking into consideration the estimated number of nests on Primrose Lake and Redberry Lake, I counted a total of 4,560 pelican nests (Table 1). In

Young pelican and egg in nest *Keith Roney*

1971 Boeker counted 2,865 nests while, for the same colonies, I counted 2,109 nests. Vermeer counted 5,538 nests in 1968 and for the same colonies I counted 4,422 nests.[6] The overall breeding population of White Pelicans in Saskatchewan appears to be decreasing slightly. The significance of this decrease is difficult to assess because of the unknown bias introduced by different survey methods. However, drastic changes have occurred within individual colonies.

On the positive side, the colony on Old Wives Lake has increased to almost double the 1968 figure. The pelicans have renested on the Quill Lakes after an absence of a few years. The colony at Lavallée Lake has remained stable while the Primrose Lake colony appears to be decreasing slightly. Again, the Primrose figures may only be a reflection on the survey method. The colony on Redberry Lake seems to have stabilized since Boeker's survey in 1971.

Looking on the negative side, Doré Lake, Kazan Lake and Suggi Lake have decreased dramatically since 1968. There are no pelicans nesting-on Doré Lake in 1976 compared to Vermeer's 600 nests in 1968. Kazan Lake has decreased from 680 nests in 1968 to 275 nests in 1976, while Suggi Lake has decreased from 902 nests in 1968 to only 325 nests in 1976. The colony on Cypress Lake has decreased from 12 nests in 1969 to none in 1977.

As mentioned earlier, pelicans are

Table 2 -- DOUBLE-CRESTED CORMORANT COLONIES SURVEYED IN 1976

Location	Date Checked	Adults	Nests	Eggs	Young
1) Cypress Lake (Sec. 17, T6, R26, W3)	May 22	1,200	320 ± 10 active 215 ± 10 not active	620 ± 10	
2) Last Mt. Lake* (Sec. 30, T27, R23, W2)	June 11		117 (5 not active)	122	186
3) Old Wives Lake (Sec. 28, 29, 32, 33, T13, R29, W2)	June 17		319	270	589
4) Quill Lakes (Sec. 27 & 28, T34, R16, W2)	June 30				
— Colony a (island)			32		69
— Colony b (north shore)			235	26	519
5) Primrose Lake (Sec. 11, T69, R25, W3)	July 2		43		56
6) Suggi Lake (T62, R5 & 6, W2)	July 6				
— Colony a (east island)		190	73		
— Colony b (west island)		300	147		
7) Kazan Lake (Sec. 13, T76, R16, W3)	July 7		1,300		
8) Dorē Lake (Sec. 7, T66, R10, W3)	July 7		130		
9) Redberry Lake** (Sec. 1, T43, R9, W3)	June 29	32	29	16	40
		1,722	2,740	1,054	1,459

*This colony was not active in 1977 (Clint Jorgenson, pers. comm.).
**Surveyed in 1977.

no longer nesting on Cumberland or Last Mountain Lakes and appear to be in danger in other areas.

(b) **Double-crested Cormorant:** Nine traditional nesting areas for cormorants were surveyed. All nine colonies were active and a total count of 2,740 nests was made (Table 2). Comparing this with 954 nests recorded for the same colonies by Vermeer in 1968, we see a marked overall increase. This was largely due to the Kazan Lake colony where the numbers rose from 152 nests in 1968 to 1,300 nests in 1976.

At Last Mountain Lake and the Quill Lakes cormorants have re-established themselves since the 1968 survey. Cypress Lake and Primrose Lake colonies seem to have decreased somewhat while the colonies at Doré, Old Wives and Suggi Lakes have had a substantial increase in numbers.

The number of cormorant nests recorded for Lavallée Lake shows an increased breeding success in Saskatchewan.

It should be mentioned that in 1977 no cormorants nested on Parry's Point, Last Mountain Lake (Sec. 30, T. 27, Rge. 23, W2) (C. Jorgenson, C.W.S., pers. comm.).

(c) **Great Blue Heron:** Since all the heron colonies were not checked, it is

Table 3 — GREAT BLUE HERON COLONIES SURVEYED IN 1976

Location	Date Checked	Adults	Nests	Eggs	Young
1) Lumsden (Sec. 26, T19, R22, W2)	May 13		(not active) — 50 old nests		
2) Craven (Sec. 28, T20, R20, W2)	May 13		(not active) — 10 old nests		
3) Bone Creek (Sec. 4 & 9, T11, R20, W3)	May 21		42 ± active ± not active		
4) Newton Lake (Sec. 28, T4, R14, W3)*	May 21		8 (7 active)		
5) Harris Reservoir (Sec. 8, T10, R26, W3)	May 24		75 ± 5 active (70 ± 5 active)		
6) Tennaille Lake (Sec. 28, T13, R26, W3)	May 24		6 (5 active)		
7) Findlater (Sec. 2, T22, R26, W2)	May 28		(not active) — 6 old nests		
8) Girvin (Sec. 14, T25, R28, W2)	May 28		16 (11 active)		
9) Moose Mt. Park (Sec. 21, T10, R3, W2)	June 2		(not active) — 1 old nest		
10) Gillis Lake (Sec. 25, T10, R4, W2)*	June 3		10 (9 active)		
11) Old Wives Lake (Sec. 29, T13, R29, W2)	June 17		64		
12) Fir Mountain (Sec. 24, T3, R5, W3)*	June 18		15		
13) Rockglen (Sec. 27, T2, R30, W2)	June 18		31		
14) Quill Lakes (Sec. 10, T34, R16, W2)*	June 30		19		
15) Primrose Lake (Sec. 11, T69, R25, W3)	July 2		38		
16) Ministikwan Lake (Sec. 16&17, T58, R25, W3)	July 7		45 ± 5		
17) De Balinhard Lake (Sec. 36, T63, R22, W3)*	July 7		35 ± 5		
18) Kazan Lake (Sec. 13, T76, R16, W3)	July 7		30 ± 5		
19) Bronson Lake (Sec. 29 & 30, T56, R25, W3)*	July 8		23 ± 5		
20) St. Walburg (Sec. 18, T56, R22, W3)*	July 8		12		
			456		

* — new colony

impossible to assess their status.

In 1970, Vermeer checked 31 active heronries in Saskatchewan.[7] I rechecked 13 of these colonies and found no drastic changes except at Lumsden and Craven where the species

Cormorant nests in trees, Kazan Lake *Keith Roney*

no longer breeds (Table 3). I recorded seven heronries not previously reported in the province.

Further surveys are required to complete the status on the Great Blue Heron.

RECOMMENDATIONS. Recommendations for the protection and further study of colonial nesters in Saskatchewan are listed below.

(a) **Protection.** 1) Existing legislation is inadequate. It must be strengthened and better enforced to offer complete protection within a ½-mile radius of a colony; and an overhead flight minimum of 2,000 feet is essential. If this means shutting off the lake to all motorized or unmotorized (canoe, sailboat, etc.) craft, then this is what must be done. Human disturbance through recreational development and commercial fishing operations has been the direct cause of a reduction in breeding numbers on Doré, Suggi, Redberry and Cypress Lakes.

2) To regulate all human activities on the colonies. This includes wildlife surveys, banding operations, biological studies, bird-watching, and so on. All must get prior written permission from the Department of Tourism and Renewable Resources before being allowed on a colony. Stiff penalties must be levied for anyone caught within the ½-mile protective zone or minimum overhead flight restrictions without written authorization.

3) To adequately protect important foraging areas for breeding pelican and cormorant colonies, once these have been identified. The quality of foraging areas and the extent to which they are being used must also be assessed so that any environmental impact that would endanger the birds' success can be anticipated.

(b) **Surveys.** 1) White Pelican and Double-crested Cormorant colonies should be monitored every 2 years while Great Blue Heron and other colonial nesters should be checked every 3 years.

These surveys would identify population declines in time to develop proper management techniques to combat such problems. Surveys should be by boat and motor and/or by aircraft. Data provided by G. Trottier suggests that aerial censusing is the most acceptable and least disturbing to the birds.[4]

2) A survey of all suitable water areas in the province, possibly as part of a general wetlands inventory, is required to locate additional colonies which undoubtedly exist.

(c) **Public.** An education program is required that stresses that people should stay away from bird colonies, especially during the breeding season. This is an extremely critical period and even the most innocent of visits to a colony at the wrong time could result in tremendous losses of eggs and young through predation or exposure to the elements. These disturbances may be the direct cause for nest desertion and eventual abandonment of the inactive sites noted above.

ACKNOWLEDGEMENTS. My thanks to the many individuals who reported useful observations of colonial nesters and to those who assisted in locating colonies while in the field.

The co-operation of the Hudson Bay Region of the Department of Tourism and Renewable Resources and, in particular, Dave Dalke for flying me on surveys of Cumberland and Suggi Lakes was appreciated.

I wish to thank Roger Gluckie and Paul Cochlin of the Alberta Fish and Wildlife Service for assisting on the survey of Primrose Lake.

A special thanks goes to Dr. Frank Scott of Loon Lake who so generously and freely gave of his home, time, and airplane to fly me on surveys of Loon Lake, Meadow Lake and Kazan Lake. Without his assistance, important field data would have gone unchecked.

[1] BENT, A. C. 1922. Life histories of North American petrels and pelicans and their allies. Smithsonian Inst. U.S. Nat. Mus. Bull. 121:282-293.

[2] BOEKER, E. L. 1972. A survey of White Pelican nesting colonies in 1971. American Birds 26:24; 125.

[3] SCHALLER, G. B. 1964. Breeding biology of the White Pelican at Yellowstone Lake, Wyoming. Condor 66:3-23.

[4] TROTTIER, G., and R. BRENEMAN. 1976. Population status and foraging distribution of White Pelicans breeding in Prince Albert National Park, Saskatchewan. Canadian Wildlife Service Report. unpubl.

[5] VERMEER, KEES. 1970a. Distribution and size of colonies of White Pelicans, *Pelecanus erythrorhynchos,* in Canada. Canadian J. Zool. 48:1029-1032.

[6] VERMEER, KEES. 1970b. Colonies of Double-crested Cormorants and White Pelicans in Saskatchewan. Canadian Field-Nat. 84:39-42.

[7] VERMEER, KEES, and G. ANWEILER. 1970. Great Blue Heron coloniesin Saskatchewan in 1970. Blue Jay 28:158-161.

OBSERVATIONS ON THE NESTING BEHAVIOUR OF THE SAW-WHET OWL IN ALBERTA

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In general, relatively little is known about owls, despite their wide distribution and abundance in many areas, as most species are nocturnal and, therefore, difficult to study. The Saw-whet Owl is the second smallest of our western Canadian owls and although widely distributed across extreme southern Canada little information is available in the literature on its nesting behaviour.[4] Perhaps the best reference to date on the life history of the Saw-whet remains that published by Bent.[2] More recently a study by Graber detailed food, oxygen and metabolic rate while numerous authors have elaborated on the winter distribution of this tiny owl.[5 1 3 6 8 9] A study of its nesting behaviour in relation to nest boxes was conducted by Santee and Grenfield.[10] This was the only paper located which was pertinent to our study.

Our study area was somewhat accidentally chosen; by mid-February rumour had it that Saw-whet Owls were calling from a black spruce bog (locally known as the Wagner Property) located approximately 15 miles northwest of Edmonton. On February 18, 1977 we visited the area just after dark and began imitating what we believed to the the territorial call of a Saw-whet. We waited for a response and obtained our first reply at 2230 hours. The owl called as it flew towards us and landed in a small stand of spruce. We tape-recorded this call and then played it back in the vicinity where we thought the owl to be, but without success. Later that evening we managed to locate three separate Saw-whet Owls by using the recorded call; the response, however, was neither consistent nor maintained for any length of time. Spontaneous callings of Saw-whet Owls in this area were not heard at this time.

Subsequent trips to the Wagner Property during February and March revealed the presence of a single Great Horned Owl and Long-eared Owl, three Boreal Owls and six Saw-whet Owls — all based on their calling. We counted another four Saw-whet Owls calling from various stands of spruce trees within the city limits of Edmonton on March 12.

During March we investigated the Wagner Property during the day in an attempt to find a Saw-whet Owl nest. Every likely tree was tapped and, eventually, on March 27, our diligence paid off. A balsam poplar stump situated close to a road on the edge of the bog was tapped and a Saw-whet Owl flew out, alighting on a tree some 20 feet away. The stump was approximately 16 feet high with two holes 11 and 12 feet from the ground. The owl nested in the lower hole, which was probably occupied the previous summer by a Common Flicker, as several feathers belonging to this species were observed inside the cavity. The stump was on the edge of a small stream running from the south to the north and 50 feet from a gravel road. The major vegetation in the immediate area was willow shrub, balsam poplar and trembling aspen. To the east of this area was a cultivated field which was surrounded on the other three sides by the spruce bog proper. The nest opening faced east towards this cultivated field.

Observations were made on 16 evenings between March 27 and May 18 (53 days) for a total of 25 hours. During this period no pellets were found although a daily intensive

Young Saw-whet Owl *Anthony Johns*

search was conducted under the nest stump and under the trees most frequently used for calling by the owl.

Throughout our observations the bird resident in the tree stump was only seen to leave the nest cavity three times (assumed to be the female because the major portion of the incubation is carried out by the female[2 10]). The first time she left when the tree was originally discovered; the second was on March 28 when she left 20 minutes after sunset. She called as she flew some distance from the nest but the call was much softer than the normal call of the Saw-whet Owl. Four minutes later two Saw-whet Owls returned; one flew to the nest hole but did not enter, then the second owl flew and entered the cavity. The owl remaining outside started giving a normal Saw-whet Owl call. The female (bird in the nest) also left one evening when we attempted a flash picture of the male owl approaching the nest. Neither owl returned to the nest for 10 minutes, when the same behaviour as mentioned before took place.

After our original discovery of the nest we tried to induce the incubating bird to leave by rapping the tree; however, looking into and even placing a hand into the nest cavity would not make the bird leave. The diameter of the hole was such that an adult human hand (at least ours) could get through only with great difficulty. Therefore, we were unable to determine the number of eggs or laying and hatching dates. On May 12, 1977, six young Saw-whet Owls were removed from the nest and banded by R. E. Gehlert who estimated the oldest owl to be about 18 days old. It could glide but not fly and the three largest of the young were able to maintain their balance on a branch, whereas the younger owls had great difficulty in remaining upright. The nest cavity was dirty, smelly, warm and very humid. When the owls were replaced in the nest cavity they rearranged their positions so that the largest owlet was on the top of the others.

We observed some interesting behaviour of the male owl (assumed to be male since it was the non-incubating bird). When feeding the incubating bird or passing food into the nest, he was observed (on three occasions when there was sufficient light) to transfer the food, a small rodent, from his talons to his beak before flying to the nest tree. The male called while flying and carrying the prey in his beak. We were unable to photograph this behaviour. Santee and Grenfield present photographic evidence suggesting the male Saw-whet Owl carries prey to the nest in its talons. We never observed this behaviour. Santee and Grenfield do mention transfer of food from talons to beak when they saw the female fly to feed her young.[10]

The male arrived in the vicinity of the nest tree between 10 minutes to 2 hours after sunset. The time of his arrival bore no obvious correlation to weather or light conditions. On one occasion, when the male arrived 10 minutes after sunset, he attacked an American Robin singing near the nest tree.[7]

During the early period of our observations (before May 12) one owl, presumably the female, was always in the nest cavity.[2] [10] From May 12 on, however, we found only the owlets in the nest cavity, suggesting that at this time the feeding of the young is performed by both owls.

The male owl had two distinct calls, one loud, harsh, territorial call and a second softer call. The territorial call was uttered from different trees within about 30 feet of the nest. The second softer, quieter call, which we named his "visting call," was only heard when the owl was approaching or leaving the nest tree. This differentiation of the male's call is also briefly mentioned by Santee and Grenfield.[10] On one occasion, however, the male gave the territorial call as he flew to and from the nest.

The incubating bird was also heard calling on the occasion that she voluntarily left the nest. Both the call she made as she left the nest and the call she made from a tree 40-50 feet from the nest were similar to the "visiting call" of the male bird.

We hope to continue our studies on the Saw-whet Owl and would be interested in receiving any observations on the behaviour of this owl from other naturalists.

[1]AUSTIN, G. R. 1958. The unsuspicious Saw-whet Owl. Audubon Magazine 60:272-275.

[2]BENT, A. C. 1938. Life histories of North American birds of prey. Part 2. Dover Publication, New York.

[3]FORBES, J. E., and D. W. WARNER, 1974. Behaviour of radio-tagged Saw-Whet Owl. Auk 91:783-795.

[4]GODFREY, W. E. 1966. The birds of Canada. Bull. 203. Nat. Mus. of Canada. 428 pp.

[5]GRABER, R. R. 1962. Food and oxygen consumption in three species of owls. Condor 64:473-487.

[6]HOLT, J. B. 1959. Counting small owls at night. Audubon Magazine 61:262-265.

[7]JOHNS, S. 1977. Saw-whet Owl attacks Robin. Blue Jay 35:172.

[8]MULFORD, R. E., and R. L. ZUSI, 1958. Notes on movements, territory and habitat of wintering Saw-whet Owls. Wilson Bull 78:188-191.

[9]RANDLE, W., and G. R. AUSTIN, 1952. Ecological roles on Long-eared and Saw-whet owls in southwestern Ohio. Ecology 33:422-426.

[10]SANTEE, R., and W. GRENFIELD, 1939. Behaviour of the Saw-whet owl on its nesting grounds. Condor 41:3-9.

MERLINS WINTERING AND BREEDING AT BRANDON, MANITOBA

MAMIE McCOWAN, 1415 8th Street, Brandon, Manitoba R7A 3Z6

Previously, Mrs. B. A. Robinson and I reported on winter records of the Pigeon Hawk in Brandon from 1962-63 through 68-69.[1] Since that report, Mrs. Robinson and I have noted the Pigeon Hawk (now designated Merlin) from November through April in Brandon on several dates. On each date one bird was seen except where two are mentioned.

Almost 70 per cent of our sightings were made in the Brandon Cemetery and Brandon Fair Grounds, which are about a quarter mile apart and have many planted deciduous and coniferous trees.

On May 11, 1977, a pair of Merlins was seen in the Fair Grounds and it was suspected they might be nesting. They were seen and heard frequently in May, June and into July in the same part of the Fair Grounds, and the male was often observed on a dead branch of a cottonwood. On July 10, Mrs. R. H. Patmore and I were fortunate in seeing five Merlins, four of which appeared to be young birds. They were in the cottonwood and flying to nearby trees. While we watched, an adult bird came to the cottonwood with food and gave it to one of the young ones. On July 13 and 17, I saw four Merlins in the Fair Grounds, which I took to be the young birds. On the latter date, two of them were swooping low over a grassy area and gravelled roadway and alighting. On July 22 there were six Merlins soaring high overhead — a thrilling sight!

Merlin *Lynn Oliphant*

Table 1. MERLIN OBSERVATIONS AT BRANDON

1969-70 — Dec. 25; Feb. 17; Apr. 16.
1970-71 — Feb. 13; Apr. 23.
1971-72 — Dec. 5, 18, 25, 26, 28; Jan. 1, 16, 19; Feb. 24.
1972-73 — No records within the city; four sightings within 15 miles of city limits.
1973-74 — No records.
1974-75 — Feb. 10; Mar. 4, 18, 22 (2 birds); Apr. 11, 20, 21.
1975-76 — Nov. 16; Dec. 8 (2 birds); Jan. 19; Feb. 10, 14; Mar. 16; April 29 (2 birds).
1976-77 — Nov. 7; Jan. ?; Mar. 12 (2 birds), 17 (2 birds), 18; Apr. 5 (2 birds), 8 (2 birds), 9, 17, 23.

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[1] ROBINSON, Mrs. B. A., and MAMIE McCOWAN. Winter Pigeon Hawk records at Brandon. Blue Jay 27:92.

MANY NESTS ON ONE SMALL LOT

MRS. JEAN BANCROFT, 264 Campbell Street, Winnipeg, Manitoba R3N 1B5

During summer 1977, I observed and recorded events at 11 different nests, of which 10 were successful, on a well treed 16-square-metre lot. The property is located in front of a gasoline service station about 5 kilometres south of Winnipeg Beach on the south shore of Lake Winnipeg. During the period from May 27 to August 1 there were nine different species of birds in various nesting stages (Table 1).

I was interested and excited by the number of species nesting on the one small area during the same time.

With the exception of a large spruce and a dead ash, all the trees were Manitoba maples. Virginia creeper grew wild over one side of a fence and made a thick cover over some dead shrubs. Across the road from this lot, the lake front habitat had been completely denuded by a severe infestation of forest tent caterpillars, but for some reason the trees on the lot remained in full foliage. This may have been one of the reasons for the large number of nesting birds.

Cedar Waxwing nest *Larry A. Morgotch*

As regards the Rusty Blackbird — although I am an amateur birder I am well acquainted with the Common Grackle. I identified the Rusty Blackbird by the yellow eyes of the incubating female, a character that separates it from the Brewer's Blackbird. I have since been informed that there are no previous summer records for this species at this latitude in Manitoba. It is unfortunate that I did not let others know about this nesting in time to have the species verified. Let other amateurs take heed!

Table 1. ACTIVE NESTS AT THE SAME TIME ON A 16-SQUARE-METER LOT.

Species	Number of nests	Height (metres)	Nesting completed
American Robin	2*	6, 1	June 24, July 15
Northern Oriole	1	3	June 24
Cedar Waxwing	1	6	July 2
Rusty Blackbird	1	6½	June 27
Gray Catbird	1	1½	August 1
Tree Swallow	1	4	July 10
House Wren	1	2	July 27
Yellow Warbler	2	4**, 3½	July 21
Mourning Dove	1	5	July 21

*Opposite sides of property.

**Nest found destroyed, headless young on ground. Second nest believed to be renesting by same pair.

FIRST ALBERTA RECORD OF AN EASTERN BLUEBIRD

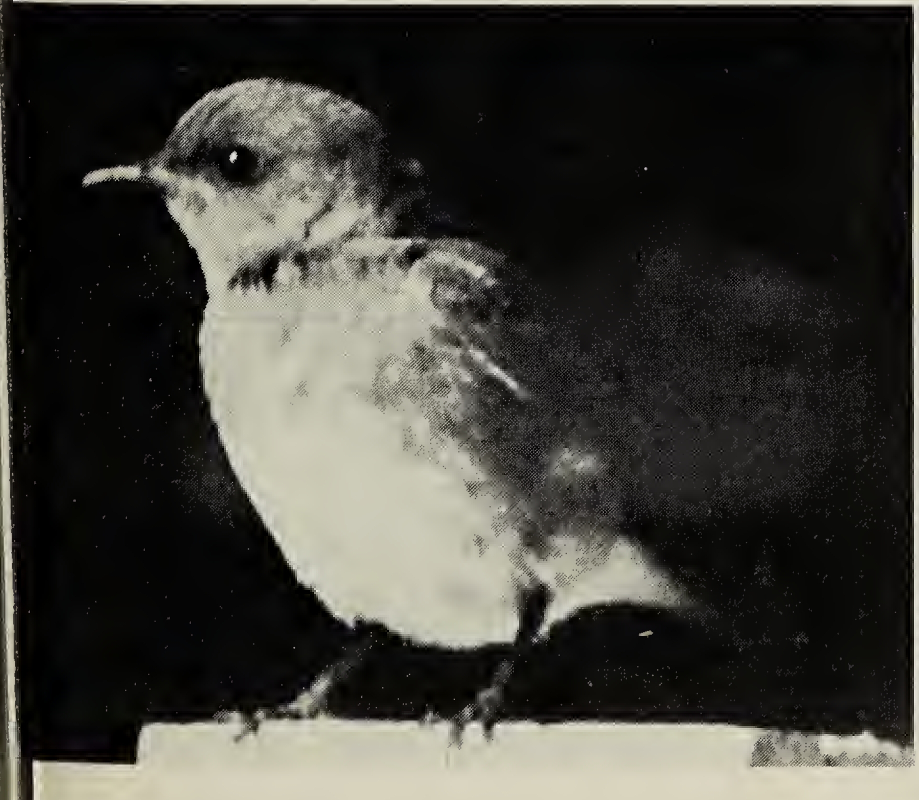
RUDI BUTOT, 81 Capri Ave., N.W., Calgary, Alberta T2L 0G9

On May 28, 1977, a bluebird was observed by Mr. and Mrs. J. Farish on their acreage one mile west of the Calgary city limits. The bird was believed to be either a Western or Eastern Bluebird. The area, on the edge of the Foothills at an elevation of 3700 feet, encompasses several residential developments consisting of small acreages with pasture and hay fields and abundant aspen groves. Numerous bluebird houses have been put up in this area through the years.

On June 1, 1977, Garry McKay visited the Farish property and tentatively identified a male Eastern Bluebird. Notes made at the time show a bluebird-sized bird, deep blue on head, back and wings; breast and throat rusty red, chin whitish, white underparts, faint eye ring, and dark legs. A visit by Gary and Rudi Butot on the evening of June 2, 1977, established the presence of two male Eastern Bluebirds on the Farish property. Both birds seem identical in plumage and coloration. Both were feeding near a freshly raked hay pile in the horse pasture. Little aggressive behaviour was seen between the two birds although on occasional mild skirmish took place when both were on the ground together. Most of the time the birds perched on the fence, usually 20 to 40 feet apart, but at times as close as 2 feet.

On both June 2 and 5, photographs were obtained by Rudi Butot, and the song of the birds, a soft short series of gurgling notes, was recorded. The photographs leave no doubt that the birds were Eastern Bluebirds. On June 5, the birds were observed visiting a number of bluebird houses; however, never were both birds seen at the same nest box at the same time. One altercation was noted between one of the birds and a pair of Tree Swallows over one of the bird houses. Although Mountain Bluebirds were observed in the area on several occasions, no interaction between the two species was observed at any time.

No observations were made from June 6 to 10, 1977, and only one bird was observed on June 9, 10, 11 and 12, the last date it was seen.



Eastern Bluebird

Rudi Butot

SEVENTEENTH ANNUAL NESTBOX REPORT FROM BRANDON, MANITOBA

MRS. JOHN LANE, 1701 Lorne Avenue, Brandon; MISS MAMIE McCOWAN, 1415 Eighth Street, Brandon, and MRS. R. H. PATMORE, 1261 Thirteenth Street, Brandon, Manitoba.

Sixteen preceding annual reports were submitted by the Brandon Junior Birders. In 1977 this organization was not active, and the bluebird nestbox project was carried on by the "Friends of the Bluebirds", comprising volunteers interested in this conservation project of the late Dr. John Lane. Mrs. John Lane coordinated efforts of the "Friends" and received their reports, on which this article is based.

At a March meeting, forms for recording observations were supplied. New volunteers were added to the list of helpers and all marked their nest-line areas on topographic maps.

In 1977, 129 new boxes were set out, bringing the total to 4,750. Many old boxes were rebuilt or replaced. For the generous and ever ready stock of excellent nest boxes and extra tops, thanks are due to two Brandon gentlemen, Watty Forsythe and John Plum.

Some nest lines were not checked due to lack of personnel. Of the boxes checked, some fall into the category of being cleaned and repaired; while the remaining 941 boxes were both maintained and monitored. From these records the following report has been compiled (see Table 1).

Twenty-seven nest boxes were reported vacant, five were missing because fences had been taken down, two were vandalized, one box had been chewed by a porcupine.

Jim Spear of Russell supplied some very interesting data. For nest box No. 4477 he reported a single nesting of Mountain Bluebirds with ten eggs. On May 13, he visited this nest box and found nine eggs, which he photographed. He did not check it again till June 1, and found three young and seven eggs.

On May 1, nest box No. 2848 was occupied by a Black-capped Chickadee. On Mr. Spear's next visit, May 13, he found a female Mountain Bluebird had built her nest over the chickadee nest and had laid four eggs. Mr. Spear writes, "I removed the bluebird nest and found the chickadee nest with six eggs. I took this out and replaced the bluebird nest. She completed her clutch and all six eggs hatched. Removing the nest did not disturb her at all." This is the first known instance of a Black-capped Chickadee in our nest boxes.

Then, too, Mr. Spear discovered a successful way to discourage House Sparrows. After removing their nest, he lowers the box to the bottom of the post, in scrub, and "in every case it would be taken by a bluebird or Tree Swallow. A willow cut and put in front of box worked successfully also." Defeating the House Sparrows has given Mr. Spear great satisfaction. Maybe others will experiment with his method. This year a few of the "Friends" have tried plugging the hole after destroying the sparrow nest, then later the plug would be removed in hopes that the House Sparrow would not occupy the box again.

There were three instances reported of what appeared to be second nestings of Eastern Bluebirds. Mrs. Barbara Robinson reported that nest box No. 552, in the Camp Hughes area, had an Eastern female with six white eggs on June 1. On July 9, 39 days later, No. 552 had ten white eggs, one of them chipped upon the side of the nest. She wondered, "Was it a double

Table 1. OCCUPANCY IN NEST BOXES 1977

Occupant	Number of nestings
Mountain Bluebird	405
Eastern Bluebird	33
Tree Swallow	397
House Sparrow	166
Starling	3
House Wren	48
Black-capped Chickadee	1
Mice	12
Squirrel	2

clutch?" Re-checking on July 10, she saw Eastern Bluebirds nearby. And on May 16, nest box No. 107, also in the Camp Hughes area, was occupied by a female Eastern Bluebird with two eggs. On June 2, No. 107 had five eggs. Visiting this same nest box on July 10, Mrs. Robinson found an Eastern female sitting on four eggs. She writes, "New clutch. Eggs a very brilliant blue. Male Eastern Bluebird and 2 juveniles of first brood on hydro wire close by."

Mr. and Mrs. Perry Hopkins, Hartney, reported that nest box No. 4174 on May 15 had an Eastern female with five eggs. On May 29, three had hatched. The male Eastern was close by. On June 26, adult Eastern Bluebirds were near and five eggs in the nest. July 14 there was no sign of the adults. On August 3, the five eggs had not hatched. Could these adults have been a different pair, or was it a second nesting?

On nest lines where House Sparrows were predominant, nest boxes have been or will be moved to new areas.

There were no reports of black flies *(Simulium venustum)* in 1977. However, there was one case of a Mountain Bluebird nest (No. 730) where three dead nestlings were covered with ants. A fourth nestling was still alive.

The areas with the densest population of both Mountain and Eastern Bluebirds are Camp Hughes and South Shilo, monitored by Barbara Robinson, Assistant Curator of the B. J. Hales Museum of Natural History, Brandon University. She reported 83 nestings of Mountain Bluebirds and 19 nestings of Eastern Bluebirds. One of the Eastern Bluebird nests was in a natural cavity in a post near the Assiniboine River.

Warmest appreciation and thanks from Mrs. Lane and the Junior Birders go out to the "Friends of the Bluebirds" from Alexander, Manitoba — Ken Shields; Austin — Mr. and Mrs. Percy Ewan, Mr. W. Moncur; Hartney — Mr. and Mrs. Perry Hopkins; Headingly — Mr. Carl Gompf; Killarney — Barry Danard, Lyle McFarlane, Marcel Demeer, Lloyd Powell; Miami — Mr. and Mrs. Dale Robinson; Neepawa — Kitty, Don, Ken, Mac and Mary Murray, Mrs. Sage, Mr. and Mrs. W. G. Moger; Newdale — Roy and Edie Everitt; Oak Lake — Mr. and Mrs. C. Penner; Pratt — Mr. and Mrs. Les North; Russell — Jim and Mildred Spear, Robbie Glasman, Richard Wileman; Shoal Lake — Cliff Findlay; Souris — Art and Joyce Michie; Wawanesa — Ed and Ivy Robinson; Brandon — Mrs. John Lane, Barbara Robinson, Dick and Hazel Patmore, John and Marion Robinson, Mr. and Mrs. A. L. Campbell and family, Ken James, Mamie and Helen McCowan, Chris Martin, Tony Burton, Mr. W. Forsythe and Mr. John Plum.

CALGARY BLUEBIRD TRAIL — 1977

HAROLD W. PINEL, 1017-19 Ave. N.W., Calgary, Alberta, and JOHN R. BIDDELL, 1212 Belavista Crescent S.W., Calgary, Alberta

In the spring of 1977, the Calgary Bluebird Trail was again prepared for the upcoming nesting season. The 400 nesting boxes were cleaned out, sprayed with a 10% creolin solution, and repaired or replaced, as required. Each box was checked and the contents recorded four times during the nesting season. A number of adult and young Mountain Bluebirds and Tree Swallows were banded.

Of the 400 houses, 43 were vandalized before nesting began, 15 after nesting started and only 8 were unoccupied on all visits, leaving 334 boxes used by birds. Excluding the 43 vandalized before the nesting season, 93.5% of the available nesting boxes were occupied. There were 391 bird nests, 1 Red Squirrel nest, and 3 Deer Mouse nests in the 334 boxes, a few of the houses being used up to four times.

Table 1 analyzes the nesting success and losses for 1977. The average clutch size for Mountain Bluebirds was 5.13 and the Tree Swallows, 5.68. In 42 nest boxes there were two or more broods by the same species — 29 were House Sparrows and 13, Mountain Bluebird. Different species nested in the same box 60 times, as follows: sparrow then swallow, 21; sparrow then bluebird, 1; swallow then sparrow, 4; swallow then wren, 3; bluebird then sparrow, 1; bluebird then swallow, 27; bluebird then swallow then bluebird, 1; sparrow then swallow then sparrow, 2.

The total losses for all species from egg-laying to young leaving the nest was 930 (46.7%) of which 483 (24.2%) were House Sparrow losses due to destruction by the authors. Interspecific competition and egg infertility were the major causes for losses by the other species.

In 1977, 668 birds were banded of which 258 were Mountain Bluebirds and 410 were Tree Swallows. This was the first year that Black-capped Chickadees nested successfully in the boxes.

Table 1. SUMMARY OF NESTING SUCCESS BY SPECIES, CALGARY BLUEBIRD TRAIL, 1977. (Numbers in parentheses are losses from the previous stage)

Species	Nests	Eggs laid	Eggs hatched	Young fledged	Young Left Nest	% of eggs producing fledged young
Mountain Bluebird	104	534	347 (187)	323 (24)	323 (0)	60%
Tree Swallow	165	938	755 (183)	703 (52)	703 (0)	75%
House Sparrow	116	485	135 (350)*	2 (133)*	2 (0)	—
House Wren	4	22	22(0)	21 (1)	21 (0)	95%
Black-capped Chickadee	2	14	14 (0)	14 (0)	14 (0)	100%
TOTALS	391	1,993	1,273 (720)	1,063 (210)	1,063 (0)	53%

*Destroyed by authors

EASTERN BLUEBIRD BOXES IN ONTARIO

L. A. SMITH, 481 Vaughan Road, Apt. 207, Toronto, Ontario M6C 2P6

My trail consists of 500 boxes stretching across 11 townships: Caledon, Albion, Mono, Mulmur, Osprey, Tosorontio, King, Uxbridge, Reach, Cartwright and Darlington.

In 1976 we had 140 good nestings and expected 170 in 1977. As it happened we had only 100 good broods. The blame can be placed on the deep snow that plagued the eastern United States last winter. It was definitely a set-back year — the first since bluebirds began to nest in my houses in 1970.

I wish I could say we have found ways to counteract vandalism but this is not so. This was the worst year for shooting and destruction since the project began. A singing male was shot dead while sitting on top of Box 10 in the Drumlin-Esker Park in the Hockley Valley. A family of Tree Swallows was killed by rifle fire in Box 268 in Mulmur Township. Trail bikes are entering many fields and cruising around at high speeds with a terrific amount of noise. Some boxes are broken off and left lying on the ground. Other units are stolen. Some houses get doors pulled off and some have their roofs pried open. In spite of this, one new area in Mono Township raised five successful broods from six boxes and with no interference during the nesting season.

The entire trail is being reorganized. More boxes are going into the good areas while the poorer regions are being abandoned. Bluebirds like dry sandy soil, sparse vegetation, old orchards, worn-out farms, forest glades and Christmas tree plantations.

Procupines ate a lot of the plywood on our boxes, so, for 1978 we are trying to put metal around all the posts. A big job but progressing satisfactorily.

THIRD RECORD OF HARLEQUIN DUCK AT CHURCHILL, MANITOBA

KEN WALTON and DONNA I. MacLACHLAN, P.O. Box 2, Dauphin, Manitoba R7N 2T9

On July 2, 1977, three female Harlequin Ducks were sighted by the authors at the north end of Cape Merry, Churchill, Manitoba. The birds were in rough water, approximately 50 yards off the rocky shoreline. They were first spotted about 10:00 a.m. and observed for about 20 minutes in full sunlight with 7 x 35 and 9 x 35 binoculars.

At noon on the same day, Ken and Bonnie Chartier, a local birder, went back to Cape Merry and found four females and three males.

The following descriptions were recorded: Female — plumage a sooty-brown with white patch areas, one situated behind the eye, one below the eye, and one in front of the eye, no wing-patch, and size similar to a female Black Scoter. Male — plumage slate-blue with chestnut sides and a striking pattern of white spots and stripes edged with black on the head, neck and chest; wings are dark slate, with a bluish chest.

This is the third record for the Churchill area, all at Cape Merry: single males were seen from July 11 to 14, 1970, and on July 11, 1971.[3] [1] It was not reported by Jehl and Smith.[2] McNicholl notes only 10 records for the province, no more than three birds being observed at any one time.[3]

[1] FORSTER, A. 1972. Winter Wren, Sprague's Pipit and other records at Churchill. Blue Jay 30:27-28.

[2] JEHL, J. R., and B. A. SMITH, 1970. Birds of the Churchll region, Manitoba. Spec. Pub. 1, Manitoba Mus. of Man and Nature, Winnipeg, Manitoba. 87 pp.

[3] McNICHOLL, M. K. 1973. Records of the Harlequin Duck in Manitoba and adjacent regions. Blue Jay 31:150-152.

OBSERVATIONS ON TWO SONGS OF THE RUFOUS-SIDED TOWHEE

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On July 18, 1977, my wife, Sandra, and I were taking a nature stroll in the Beaver Creek Park, a few miles south of Saskatoon. We were bird-watching and I was bird listening. About 1600 hours, we heard a Rufous-sided Towhee burst into song and I slowly approached the bird and made a 2-minute recording of it. In order to entice the bird nearer and investigate its behaviour, I replayed the recording. The bird responded by coming closer and by increasing the vigour and frequency of its song.

We then left the bird in peace and went about our walk. One hour later I heard another song in the same general area of the first bird and, since this song was different, I recorded it. On noticing a Rufous-sided Towhee singing, we decided it was the same bird singing a different song. (This species has at least six different song-phrases according to Peterson's *A Field Guide to Western Bird Songs.)* When I played the recording back to the bird, it approached us and began singing the second song with more vigour and more often.

I decided to wait a few minutes and play the first song (recorded an hour earlier) to the bird. This song was obviously recognized by the bird as a towhee song as it approached me again, singing its second song, vigourously and more frequently. I repeated this procedure from another position but, although I was playing the first song and the bird was responding to it, it would not revert to its first song.

EDITOR'S NOTE: A study of this species in Oregon found that an individual towhee had up to nine song types and that variations were identifiable within each type. D. E. Kroodsma. 1971. Condor 73:303-308.

Striped Skunk *Lorne Scott*

SASKATCHEWAN CHRISTMAS MAMMAL COUNT — 1977

Compiled by WAYNE C. HARRIS, Box 93, Raymore, Saskatchewan S0A 3J0

A total of 41 counts were taken this year, recording 24 species during the count period. The number of counts continues to increase — up 8 from the 33 reporting last year. Two new species were added this year — a set of Fisher tracks was seen in Prince Albert National Park, and at Raymore a freshly dead Gapper's Red-backed Mouse was found.

Aside from the new species, several interesting trends can be noted in the table. White-tailed Deer populations have continued to rise with last winter's mild weather and lack of snow being the probable explanation. A herd of over 200 Pronghorns in the Skull Creek area and reports from Leader and Eastend-Ravenscrag seem to indicate that they also did well last winter. Snowshoe Hare numbers have remained high, as have the White-tailed Jack Rabbit.

Both Red Fox and Coyote have shown sharp decreases in numbers. With one of their main winter food sources, the rabbits, being high in numbers, this is surprising. However, several people commented on both of these species being taken by snowmobile operators. Thus it would appear that Fox and Coyote populations fluctuate more in relation to fur prices than to food supply, as reflected by the high prices being paid last year for these species. If this is true, populations should be even lower next Christmas, as the prices are continuing very high.

The Lynx was again unreported this year, yet their food supply, the Snowshoe Hare, is common in most areas of the northern forest. Even trappers in the north are apparently finding Lynx to be few and far between. As last year, both the Badger and Striped Skunk were reported, indicating that they may regularly remain active to the end of December.

For weather, coverage and participants, please refer to the Christmas Bird Counts found elsewhere in this issue. Symbols found in the table are as follows:

*	Identified by tracks with the number of animals estimated in parentheses.
+	Seen during the count period but not on count day.
L	Active lodges seen, with number of active lodges in parentheses.
D	Freshly dead animal found.

White-tailed Jack Rabbit *Larry A. Morgotch*

	Red Fox	Coyote	Timber Wolf	Fisher	Ermine	Least Weasel	Long-tailed Weasel	Weasel sp.	Mink	Striped Skunk	Badger	White-tailed Jack Rabbit	Snowshoe Hare	Nuttall's Cottontail	Red Squirrel	Beaver	Deer Mouse	Gapper's Red-backed Mouse	Meadow Vole	Mouse sp.	Porcupine	Elk	Mule Deer	White-tailed Deer	Moose	Pronghorn	Total Species
Bangor — Jan. 3	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	2	—	—	2
Biggar — Dec. 23	—	1	—	—	—	—	—	*(2)	—	—	—	1	1	—	—	—	—	—	—	—	1	—	—	—	—	—	5
Big Gully Creek — Dec. 23	—	*	—	—	—	—	—	*	—	—	—	+	*	—	8	—	—	—	—	—	—	—	*	*	—	—	7
Broadview — Dec. 31	—	3	—	—	*(1)	—	*(1)	—	*(1)	—	—	*	*	—	2	—	—	—	—	—	1	—	—	5	—	—	9
Candle Lake — Dec. 26	—	*	*(8)	—	—	—	—	*	*	—	—	—	*	—	18	—	—	—	—	—	—	*	—	*	*	—	9
Duck Lake — Jan. 2	—	—	—	—	—	—	—	—	—	—	—	—	*	—	3	—	—	—	—	—	—	—	—	*	—	—	3
Duperow-Ruthilda — Jan. 2	—	1	—	—	—	—	—	*(1)	—	—	—	+	*(1)	—	—	—	—	—	—	*(3)	1	—	—	2	—	—	7
Eastend-Ravenscrag — Dec. 26	—	—	—	—	—	—	—	—	—	—	—	—	—	11	—	—	—	—	—	—	—	—	1	—	—	—	2
Eastend-Ravenscrag — Dec. 28	—	*	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	9	18	—	27	6
Feudal — Jan. 1	—	—	—	—	—	—	—	*(2)	—	—	—	—	*(5)	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Fort Walsh — Dec. 18	—	*	—	—	—	—	—	*	—	—	1	1	*	4	48	—	—	—	—	—	1	*	23	19	1	—	12
Gardiner Dam — Dec. 21	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	1	—	—	3
Glaslyn-Turtleford — Jan. 1	—	—	*(1)	—	—	—	—	—	—	—	—	—	1	—	*(3)	—	—	—	—	—	—	—	—	*(30)	2	—	5
Hafford-Blaine Lake — Dec. 26	—	—	—	—	—	—	—	*	—	—	—	—	*	—	*	—	—	—	—	—	*	—	—	*	—	—	5
Humboldt — Jan. 2	—	*(1)	—	—	—	—	—	—	*(1)	—	—	*(5)	*	—	—	—	—	—	—	—	—	—	—	*(6)	—	—	5
Indian Head — Dec. 18	+	+	—	—	—	—	—	—	—	—	+	3	—	—	1	—	—	—	—	—	—	—	—	*(6)	—	—	6
Kenaston — Dec. 28	—	*(2)	—	—	—	—	—	*	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Kindersley — Dec. 29	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Kutawagan Lake — Dec. 31	—	*	—	—	—	—	—	*	—	—	—	75+	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Langham — Dec. 21	—	—	—	—	—	—	—	*	—	—	—	—	*	—	—	—	—	—	—	—	+	—	—	—	—	—	3
Last Mountain Lake — Dec. 29	—	—	—	—	—	—	—	*	—	—	—	1	*	—	—	—	—	—	—	—	1	—	—	2	—	—	5
Leader — Dec. 28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	—	52	3
Luseland — Dec. 21	1	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Maidstone Bridge — Dec. 22	—	*	—	—	*	—	*	—	—	—	—	*	*	—	5	—	—	—	—	—	—	—	—	*	—	—	7
Moose Jaw — Dec. 26	3	—	—	—	—	1	—	—	—	—	—	18	10	—	—	—	—	—	—	—	—	—	—	9	—	—	5
North Battleford — Dec. 27	*(1)	*(1)	—	—	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—	—	—	—	—	*(6)	—	—	5
Prince Albert — Dec. 25	—	—	—	—	—	—	—	*	*	—	—	*	*	—	13	—	—	—	—	—	—	—	—	*	—	—	6
Prince Albert National Park — Dec. 29	7	—	—	*(1)	—	—	—	—	1+	—	—	—	1+	—	—	—	—	—	—	—	—	12+	—	3+	11+	—	7
Raymore — Dec. 30	—	*	—	—	*	*	*	—	—	—	—	*	*	—	*	—	—	D(1)	—	—	*	—	—	*	—	—	10
Round Lake — Jan. 2	*(2)	1	—	—	—	*(8)	*(3)	—	*(2)	*(1)	—	*(1)	6	—	3	—	—	—	—	*(3)	*(2)	—	—	7	—	—	12
Saltcoats — Dec. 29	—	—	—	—	—	—	—	*(1)	—	*(1)	—	*(4)	*(35)	—	—	—	—	—	—	—	*(1)	—	—	*(38)	—	—	6
Saskatoon — Dec. 26	*	2	—	—	—	—	—	—	—	—	—	—	1+	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Scott — Dec. 27	—	—	—	—	—	—	—	—	—	—	—	+	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2
Skull Creek — Dec. 30	*	4	—	—	—	—	—	*(2)	—	—	—	*	6	—	—	—	—	—	—	*	1	—	5	20	—	200	10
Spirit Lake — Dec. 28	—	*(1)	—	—	—	—	—	*(1)	—	—	—	—	3	—	2	L(2)	—	—	—	3	1	—	—	6	—	—	8
Spring Valley — Dec. 31	+	+	—	—	—	—	*	—	—	+	—	3	—	—	—	—	—	—	—	*	—	—	3	+	—	—	8
Valley Centre — Dec. 31	—	—	—	—	—	—	—	*(1)	—	—	—	1	*(2)	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Waseca — Dec. 31	—	*	—	—	—	—	—	—	*	—	—	—	—	—	—	—	*	—	—	—	—	—	—	*	—	—	4

SOME WESTERN CANADIAN BAT RECORDS

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Considerable numbers of bats from western Canada are submitted annually for rabies diagnosis to the Animal Diseases Research Institute (Western) at Lethbridge. Since 1973 most of these bats have been identified. In 1972 a bat research program was initiated by the Alberta Department of Agriculture and the Fish and Wildlife Division of the Alberta Department of Lands and Forests (now Recreation, Parks and Wildlife). Discussed here are occurrences of interest in determining distribution OF bat species which have been discovered in the course of these activities. Specimens of unusual interest were placed in the Provincial Museum of Alberta or the National Museum of Natural Sciences.

Species Accounts

LONG-EARED MYOTIS — The only published record of *Myotis evotis* from the plains of Alberta is of a specimen taken 9.6 km west of Rumsey. [1] [8] We have captured 31 long-eared myotis at this location where it appears to be the most abundant bat species. As well a maternity colony of 10 to 15 adults, known to have been active since before 1972, is located in an attic in the hamlet of Hesketh. The attic is unheated and better ventilated than those colonized by little brown and big brown bats with which we are fimiliar. These occurrences and those from similar areas of Saskatchewan suggest that this species is likely a wide spread resident of arid river valleys of southern Alberta and Saskatchewan.[3] [6]

LONG-LEGGED BAT — In Alberta *Myotis volans* is recorded from Henry House and Dried Meat Lake.[1] [8] Soper predicted the occurrence of the species in the Milk River Valley.[8] We now have an adult male and an adult female netted July 4, 1976 under a yard light near the Milk River immediately east of Writing-on-Stone Provincial Park. The female was not pregnant or lactating.

SMALL-FOOTED BAT — Alberta records of *Myotis leibii* are from the Red Deer River near Rumsey, Munson and Jenner; and the Milk River 25.6 km west of Wildhorse.[2] [8] We have 11 captures at the Rumsey location, as well as captures in Dinosaur Provincial Park on Sand and Berry Creeks. Specimens are available from Drumheller, Medicine Hat and Lethbridge. As suggested by Jones this bat appears to be widely distributed in southern Alberta.[2]

HOARY BAT — Seventeen *Lasiurus cinereus* have been submitted for rabies examination from Alberta since 1974, only one of these was an adult male. Although Soper indicates that this species occurs throughout the wooded area of the province records are lacking for much of this area.[8] Specimens from Grimshaw and Beaverlodge are the first from the Peace River region. In addition hoary bats were collected from Seven Persons, Olds, Willow Creek Provincial Park, Picture Butte, Drumheller, Lethbridge, Skiff, and Rosedale all in the plains region of Alberta.

Nero and Maher report parturition dates of June 24, and June 25 or 26, respectively for hoary bats from Saskatchewan.[5] [4] A female carrying in flight a male and female young was captured during daylight June 1, 1976 in Tisdale, Saskatchewan. The young appeared to be less than a week old.

A slightly earlier birth date is suggested by a specimen taken July 10, 1975 in Drumheller, Alberta. The

Hoary Bat *Lorne Scot*

young bat, which appears sufficiently developed to be volant, was reported to have fallen off the back of a flying animal, thought to be a bat, during daylight.

Acknowledgements

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Messrs. John Gunson and Lawrence Harder reported early observations of the *Myotis evotis* colony in Hesketh. Mr. Gunson further provided administrative support for the work described here. Mr. Hugh Smith, of the Provincial Museum of Alberta, and Dr. C. G. van Zyll de Jong, of the National Museum of Natural Sciences, confirmed the identifications of some specimens. The assistance of Messrs. Henry Boumans, Bert Prins, Donald Meyer and Nick Previsich and Ms. Pam Cole in the field and laboratory is gratefully acknowledged.

[1] ANDERSON, R. M. 1946. Catalogue o Canadian recent mammals. Nationa Museum of Canada Bulletin 10 Biological Series 31. 238 pp.

[2] JONES, E. T. 1974. Sixteen Alberta ba records, 1971-1974. Blue Jay 32:24 245.

[3] MAHER, W. J. 1972a. Two new records c long-eared Myotis in Saskatchewa Blue Jay 30:236.

[4] MAHER, W. J. 1972b. Hoary bat parturitio date and captivity record. Blue Ja 30:236-237.

[5] NERO, R. W. 1958. Hoary bat parturitio date. Blue Jay 16:130-131.

[6] NERO, R. W. 1960. Long-eared Myot found in Saskatchewan. Blue Ja 18:181.

[7] NERO, R. W. 1963, A second record of th Long-eared Myotis bat. Blue J 21:119.

[8] SOPER, J. D. 1964. The Mammals Alberta. Hamly Press, Edmonto 402pp.

LITTER SIZE AND NURSERY SITES OF THE HOARY BAT NEAR DELTA, MANITOBA

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Three, and possibly four, female hoary bats *(Lasiurus cinereus)*, each with two young, were found in 1977 roosting in trees on the forested beach ridge which separates Lake Manitoba and the Delta Marsh, Manitoba. All bats were found just west of the University of Manitoba Field Station (Delta Marsh), about 5 km west of Delta, Manitoba. These observations add to the scanty knowledge of the timing of parturition and nursery site selection in this species.

Each female gave birth to two young, probably at the sites described in Table 1. The mean distance between the roosting bats was 113 m (extremes, 22 and 133 m). Parturition occurred relatively high in trees that bordered the north side of clearings in the ridge forest. This habitat is similar to that selected by hoary bats elsewhere.[4] The sites were mid-way on the ridge between Lake Manitoba and the Delta Marsh. When found, the young possessed thick silvery-gray hair on their dorsal surfaces and were probably less than a week old.[3] The second female remained, with her two young clinging to her, at the same site on a branch for at least 11 days.

The young, nearly always two, are generally born from mid- to late June, apparently throughout its breeding range.[2] Parturition in the females I observed in Manitoba fell within this period. In adjacent Saskatchewan, parturition in hoary bats has been

Table 1. LITTER SIZES AND NURSERY SITES OF THE HOARY BAT, DELTA BEACH RIDGE, MANITOBA, 1977.

Tree[a] species	Height of bat (m)	Tree height (m)	Bat height relative to tree height (%)	Side of tree	Distance from Lake Manitoba (m)	Litter size
MM	5.7[b]	8.1	70.4	S	49	2
GA	6.0[c]	8.4	71.4	W	57	2
GA	8.3[d]	9.5	87.4	S	37	2
PW	10.5[e]	11.1	95.5	S	45	2
Mean	7.6	9.3	81.2		47	2.0

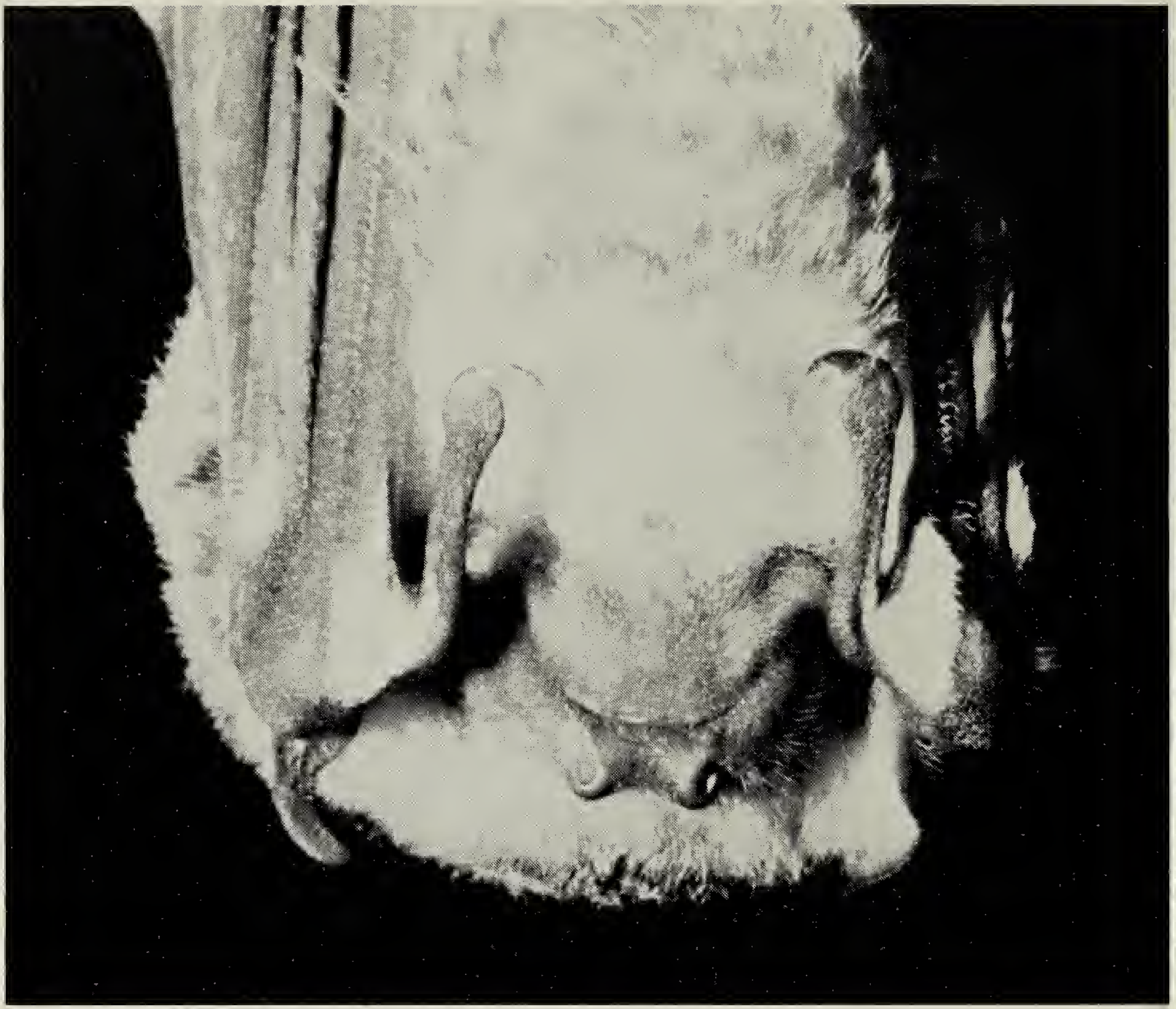
[a] MM: Manitoba maple *(Acer negundo)*; GA: green ash *(Fraxinus pennsylvanica)*; PW: Peachleaf willow *(Salix amygdaloides)*.

[b] This female was found on June 19, and brought, with her young, into a laboratory; it was returned the next day to the same tree. Their departure by June 21 was probably due to this disturbance.

[c] Found on June 19, departed by July 1.

[d] Found June 20, departed by June 26.

[e] Found July 1, departed by July 3. Possibly one of the others that had moved.



Head detail of Hoary Bat *Lorne Scott*

observed on June 24 and 25 or 26.[6 7]

The hoary bats observed here constitute the first published records from the Delta Marsh area, although its occurrence there is expected.[1 5 8 9]

These observations were made while I was conducting nesting studies of beach-ridge birds funded in 1977 by the Manitoba Naturalists Society and the National Research Council of Canada (A9556). R. W. Nero and R. E. Wrigley kindly read this note and made suggestions for its improvement. This is contribution number 37 of the University of Manitoba Field Station (Delta Marsh).

[1] BANFIELD, A. W. F. 1974. The mammals of Canada. University of Toronto Press, Toronto, 438 pp.

[2] BARBOUR, R. W., and W. H. DAVIS. 1969. Bats of America. University of Kentucky Press, Lexington, 286 pp.

[3] BOGAN, M. A. 1972. Observations on parturition and development in the hoary bat, *Lasiurus cinereus.* Jour. Mamm. 53:611-614.

[4] CONSTANTINE, D. G. 1966. Ecological observations on lasiurine bats in Iowa. Jour. Mamm. 47:34-41.

[5] HOCHBAUM, P. W. 1971. The Delta Marsh. Manitoba Department of Mines, Resources and Environmental Management, Conservation Extension Branch. 52 pp.

[6] MAHER, W. J. 1972. Hoary bat parturition date and captivity record. Blue Jay 30:236-237.

[7] NERO, R. W. 1958. Hoary bat parturition date. Blue Jay 16:130-131.

[8] SOPER, J. D. 1961. Mammals of Manitoba. Can. Field-Nat. 75:171-219.

[9] TAMSITT, J. R. 1962. Mammals of the Delta Marsh region of Lake Manitoba, Canada. Can. Field-Nat. 76:71-78.

BAT DIES ON BARBED WIRE FENCE

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On September 4, 1977, three others and I found the partly dehydrated body of a Hoary Bat, *Lasiurus cinereus,* hanging from a barbed wire fence separating two areas of grassland at the north side of Beaverhill Lake. The bat, an adult female, had been caught on a barb along the upper strand of the fence and had been unable to free itself. On closer examination, it was observed that the barb had penetrated its uropetagium (the membanous skin connecting the hind limbs and tail) on the left side, and the bat had twisted, tangling its left foot and further securing itself to the barb.

In Alberta the Hoary Bat is a summer resident in the forested regions, but is seldom seen and is regarded as scarce throughout its range in the Province[1]. The occurrence of this species in an open area of grassland is noteworthy. The nearest trees were aspens located approximately 250 m north.

Previous records of this type of mortality in Hoary Bats are known from Madison, Wisconsin and Collegeville, Minnesota.[2] [3] In these cases and in others the bats were found on the upper strand of wire, and the uropetagium of each bat had been caught on a barb.[4]

The coincidence of this set of circumstances is remarkable and raises questions about the mechanics of the interaction of bats and barbed wire. Based on the two previously documented occurrences, Gillette and Kimbrough[4] suggested that *Lasiurus* might not be able to detect fences in time to avoid hitting them.[5]

It is possible that one or more of the following hypotheses may explain the phenomenon. One, the bats may have attempted to avoid the wire or slow their approach to it by drawing the uropetagium downward, thereby exposing it to the wire. Two, in the use of the uropetagium for catching and feeding on flying insects, the bats may have attempted to catch an insect near the fence and accidently swept this membrane on to the barb, or perhaps momentarily associated the shape of the barb with that of an insect and attempted to entrap it in the membrane. Three, the bats may have attempted to perch on the wire and caught this membrane on the barb while landing.

The results of tests that show that *Lasiurus* is a bat with a relatively fast and direct flight and observations that this bat shows less avoidance to mist nets than other species may lend credence to the first two hypotheses.[6] [4] However, a carefully controlled photographic study, coupled with biophysical or physiological evidence of this interaction, may be required before the cause of this phenomenon is understood.

I wish to thank Hugh C. Smith, Curator of Mammalogy for the Alberta Provincial Museum for information about the bat and his encouragement and comments on this paper.

[1] SOPER, J. D. 1964. The Mammals of Alberta. Hamley Press, Edmonton, Alberta.

[2] IWEN, F. A. 1958. Hoary bat the victim of a barbed wire fence. J. Mammal. 39(3):438.

[3] HIBBARD, E. A. 1963. Another hoary bat found hanging on a fence. J. Mammal. 44(2):265.

[4] BARBOUR, R. B. and W. H. DAVIS. 1969. Bats of America. The Univ. Press of Kentucky, Lexington, Ky.

[5] GILLETT, D. D. and J. D. KIMBROUGH. 1970. Chiropteran Mortality. Pages 262-283 *in* About Bats, a chiropteran symposium, R. H. Slaughter and D. W. Walton (Eds.) Southern Methodist Univ. Press, Dallas, Texas.

[6] HAYWARD, B. and R. DAVIS. 1964. Flight speeds in western bats. J. Mammal. 45(2): 236-242.

WOLVES ON THE SOUTHERN SASKATCHEWAN BORDER

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In historic times packs of wolves followed the buffalo herds and were a major source of predation on the weak, sick and lame. In the period of settlement and the disappearance of the buffalo the wolf was remorselessly hunted because of predation on livestock and the general antipathy towards it. It was also hunted as a sport and for a trophy, at a time when there were fewer forms of entertainment than today. The anecdotes of the early ranchers contain many stories of the wolf hounds which were trained to hunt in the pioneer and ranching settlement area.

In the last 15 years there have been increasing reports of wolves in southern Saskatchewan and there have been suggestions that the buffalo wolf or lobo wolf may still exist. The Montana authorities have reported numerous wolves along the Frenchman Creek south of the Cypress Hills. The cry of the wolf has been heard in the Cypress Hills recently, where it has not been heard for 50 years.

In the Frenchman Creek, Shaunavon, and the Big Muddy areas there have been further reports, as well as in the Avonlee Badlands, approximately 30 miles from Regina. There have been frequent reports of wolves being killed, but until recently no skulls have been obtained to verify the reports. There is always the possibility of reports of wolves being confused with feral dogs.

In the summer of 1976 I was able to examine the skull of a wolf which was killed on the Alberta side of the Cypress Hills south of Elkwater, which was mounted inside a perspex case by the Alberta government and then returned to the owner.

Wolf *M. A. Gollop*

We were fortunate to obtain a wolf skull from Mr. Gilchrist, a rancher in the southern Cypress Hills area, where it had been recently killed. Through Dr. John E. Storer of the Saskatchewan Museum, the skull was forwarded to Dr. C. G. van Zyll de Long, the curator of mammals in the National Museum in Ottawa, for subspecies determination. The reply which we received was that it does not appear to be that of *Canis lupus nubilis,* the buffalo wolf, and that it falls within the normal wolf subspecies of the north and west.

A study has been made by the Canadian Wildlife Service of various wolves in Banff, Jasper, Prince Albert and Riding Mountain National Parks to establish if there are any remnant groups of the buffalo wolf. It would appear, however, that the specimen obtained recently in the Cypress Hills did not belong to that subspecies, nor do those of the national parks.

It appears certain that there are small numbers of wolves in southern Saskatchewan and that they may break cover from time to time. It is unlikely that they will become numerically abundant, but they may be a further example of how a species can return to an area following rural depopulation and the increase in certain prey species. The reduction in the use of poison bait may also be a factor.

ANOTHER LOOK AT COYOTES

HANS DE VOGEL,
Box 219,
Neilburg, Saskatchewan
S0M 2C0

The day is just beginning when I get to the pasture. A mist hangs over the sloughs, and everything is damp and wet. A House Wren starts her quick little song; she must have a nest in an old woodpecker's hole. On the water, I can hear the muttering and splashing of mudhens, still invisible. Redwings are calling, and across the water in a patch of bullrushes, Yellow-heads croak. A pair of Crows fly over — silent for once!

This lease land is supposed to be parkland, but it is turning more and more into an aspen forest with open spaces. The big low meadows have been under water for the last 20 years, and are not better adapted to raising ducks, muskrat and beaver, than to grazing cows.

In the pasture, I stop to listen, but all I hear is coyotes yodelling far away in the direction of the den. I picture the mother sitting on the hilltop with her offspring, greeting the newborn day.

Finally I find the whole herd of cows bedded down around a salt block, still new and square. A rough count indicates that they are all there. A little apart, a cow is licking a very young, beautiful heifer calf. She must have brought it back into the herd from its secret birthplace just this morning. I carefully note the new mother's ear-tag number on the flap of my cigarette papers, then roll a cigarette and perch comfortably on the block of salt, to enjoy the first rays of the sun.

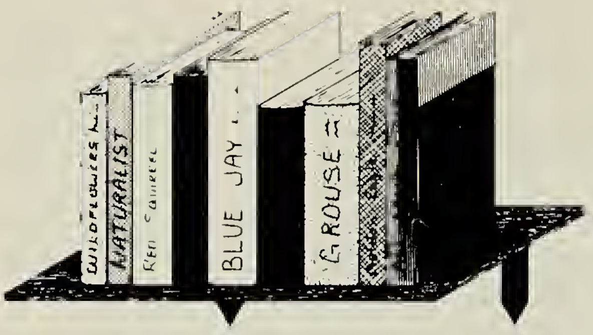
Some of the cows are now getting up. They arch their backs, curl their tails and stretch one leg for good measure, then without fail relieve themselves. Calves run to their mothers for breakfast.

Suddenly the grazing horse throws up its head. Right in the middle of the cows is a beautiful big coyote with a mallard drake clamped in his jaws. The cows neither look nor miss a beat in their cud-chewing. This must be a daily occurrence to them. Any moment I expect the coyote to get my scent, whirl around and streak away, but the odour of the cows and of the freshly-killed prey seem to keep him from smelling me. He comes nearer and nearer, head held high to keep from stepping on the dangling duck. Passing within 50 feet of me, he disappears over the hill in the direction of the den, carrying food to the young.

On the way home I start wondering about coyotes. This coyote carrying food was a male, so it is clear that both parents look after the pups. Ordinary dogs, after mating, take no responsibility for the pups. Could it be that the male coyote, by contrast, once accepted by the female, stays with her and helps feed the young during the denning period?

Years ago I rode along a bush trail with our farm dog. He was about 100 yards ahead of the horse when suddenly he stopped and wagged his tail slowly as all dogs do when they are not sure of the reception they will get from strangers. Two coyotes appeared on the trail, one much bigger than the other. Both acted as if they wanted to play, and the big one rolled over a couple of times. Our Mutt rushed up in joyful bounds, and the coyotes ran ahead of him looking sideways as only coyotes do. The trio disappeared around a bend in the trail. A mile further on, the dog suddenly appeared again behind the horse, looking none too happy. I am sure this was a case of a pair of coyotes coaxing the dog away from their young.

There is much to learn yet about our wild yodellers. It is too bad most peole only see coyotes through the scope of a rifle, as dead carcasses near poison baits, or desperately plunging through deep snow ahead of a roaring skidoo.



NATURE LIBRARY

CANADA'S THREATENED SPECIES AND HABITATS

THEODORE MOSQUIN and CECILE SUCHAL, Editors. 1977. Canadian Nature Federation, Ottawa. 185 pp. $8.00

In 1608 Champlain ascended the St. Lawrence and found the land rich in timber and wildlife, the water clean and the natives living in harmony with nature. The twentieth century explorer is more likely to encounter waterways polluted with garbage and oil, a paucity of wildlife and people who think "they can eat their environment and have it too."

Everyone speaks of habitat destruction and the demise of the ecosystem. What has this to do with the narwhal, the kit fox or the Eskimo curlew? A habitat is where a species can live successfully and reproduce. With no walrus habitat, no walrus. If we are to salvage endangered species we must consider what factors in their environment are discouraging their survival.

R. Yorke Edwards, a wildlife biologist, compares the species-habitat relationship to a bucket of water. You may damage a bucket so that it looks the same but will hold no water. Similarly, if you destroy just one of the habitat conditions that a wolf must have, no wolves will live there. Canada, the world's second largest country, has only 23 million inhabitants and yet we have managed to alter or destroy most of the original habitats that existed in Champlain's time, and with them, the flora and fauna they supported. Why has this been allowed to happen? R. Yorke Edwards believes that "most of Canada is out of sight, so we do not even glimpse most changes. We forget what landscape looked like and accept today's manhandled version as the norm. Even when we really see the world around us we think of it as a static painting. . ."

The British North American Act states that the administration of wildlife is a provincial responsibility and yet only Ontario and New Brunswick have Endangered Species Acts and these include only animals, not plants. The situation concerning habitat protection is no better, with only three provinces (British Columbia, Quebec, New Brunswick) having Ecological Reserves Acts. Michael Singleton, an Ontario biologist, describes Canadian legislation as "piecemeal, jumbled and cosmetic." The Canadian Wildlife Federation lists 41 animals as endangered. Plants are also threatened. Of the estimated 4,000 species of flora found in Canada, some 1,300 have been classified as rare. Clearly a collective effort is necessary if we hope to halt this destruction of our environment.

In May 1976 the Canadian Nature Federation and the World Wildlife Fund co-sponsored a symposium to discuss this very problem. Their intention was not to demonstrate the obvious, that there are endangered species in Canada, but to examine management programs, review government policies and make recommendations. The papers presented were later compiled into a soft covered book. Unfortunately there is a bias in the coverage of endangered species favoring those which are presently being studied or which have received the attention of governments. A notable omission was the absence of any mention of Canada's endangered flora. Each paper deals with the present status, habitat requirements, threatening factors and management plans of the species in question. Little time is spent in discussing animal life histories, which I found refreshing, and which can be found in any standard reference text. A healthy bibliography accompanies each article. Photographs are in black and white but regrettably are inconsistent in quality and interest. I found it particularily unimaginative that a whooping crane photograph was selected for the cover.

Threatened species and habitats should be a concern of every Canadian and this publication offers an inexpensive opportunity for everyone to increase their knowledge. I heartily recommend it. — *Wayne Lynch,* No. 102, 4040 Gordon Road, Regina, Saskatchewan. S6S 6W2

THE AUDUBON SOCIETY FIELD GUIDE TO NORTH AMERICAN BIRDS. EASTERN REGION.

OHN BULL and JOHN FARRAND, Jr.
977. Knopf, New York. 775 pp. $8.95.

This may be the most beautiful, east adequate field guide ever ublished. It covers Canada from the lberta foothills to the Atlantic coast, xcluding the Cypress Hills of Alberta nd Saskatchewan. It is beautiful ecause it contains 584 coloured hotographs of birds with one to three pecies per page. It has more than wice as many pages as Robbins' or eterson's western guides.[1] [2] However, s size, 7.5" x 4" x 1", with soft cover, ermits it to fit more easily into more ockets than the other guides. There is lmost a page of text per species ivided into description, voice, abitat, range, nesting and additional omments. That about sums up the eauty of the book. Its inadequacies equire more space. (The companion olume, *Western Region,* was not seen ntil after this review was written. Reference to it is made only in the following paragraph.[3])

How complete is this new eastern Audubon guide for the Prairie Provinces and Northwest Territories? It does not illustrate from 4% to 11% of the birds in each province and territory (Table 1). Its western counterparts omits 14% to 18%, whereas Peterson has 2% to 6% missing and Robbins' is practically complete. While most of the omissions are stragglers, there are some relatively common and widespread species in Saskatchewan not treated. Excluding those restricted to the Cypress Hills area, the eastern volume makes no mention of Western Grebe, Ferruginous Hawk, Prairie Falcon, California Gull or Say's Phoebe.

How good are the illustrations? The authors claim that photographs are better than paintings because "Every artist's rendering of a bird is his interpretation, whereas a good photograph captures the natural color and stance of birds as you will usually see them". However, while most photos in this guide are feather-sharp, some are blurred, e.g., Red Knot, Eastern Kingbird, Palm Warbler and White-crowned Sparrow. In most the colour rendition is good but some are too dark, e.g., Pine Grosbeak and Philadelphia Vireo, or too pale, e.g., female Rufous-sided Towhee, or too yellow, e.g., Clay-colored and Sharp-tailed Sparrows.

Also, one photo usually shows only a single stance of a single individual and in this book this is most frequently an adult male in breeding plumage. Non-breeding plumages are given for 30 of our species; Peterson has them for 92 species. Female and immature plumages are given for 63 species; Peterson for 125. (Robbins' contains more in both cases.) Colour phases are shown only for Snow Goose and Screech Owl. A Peterson or Robbins is needed for dark phases of Prairie Buteos.

The use of coloured photos has also severely restricted the number of birds shown in flight. For 28 species of ducks, Bull has 47 marginal drawings

Table 1. COMPARISON OF OMISSIONS IN FOUR FIELD GUIDES

		SPECIES NOT DESCRIBED							
		1977 Audubon Guides				Peterson's		Robbins'	
	# Species Occurring	Eastern Region		Western Region		Western Guide		N. Am. Guide	
		#	%	#	%	#	%	#	%
Alberta	324	37	11	42	13	5	2	1	—
Saskatchewan	336	29	9	53	16	9	3	0	—
Manitoba	315	14	4	58	18	13	4	1	—
N.W.T.	252	21	8	36	14	14	6	1	—
TOTAL	392	53	14	76	19	29	7	3	1

of birds in flight (underside only); Robbins has 115 coloured individuals (upper and lower views).

How are the coloured photos arranged? They are grouped according to "obvious similarities in appearance" or "visible similarity in behaviour or habitat". This hybrid system has its problems. Loons, grebes and pelicans are "Duck-like Birds" but cormorants are "Upright-perching Water Birds" and gulls are "Gull-like Birds". The snipe is put among the "Upland Ground Birds" which includes our upland game birds and has a Ruffed Grouse as its thumbnail symbol at the outer edge of the page. However, the snipe is standing in water and in the text is found under "Freshwater Marshes".

Perching birds are further broken down by colour. Again, there are problems. Catbird and Mockingbird are colour-coded red; the female Black-throated Blue Warbler (a brown bird) is in the blue section; the male Yellow-headed Blackbird and magpie are gray-coded, and there are 12 consecutive brown, gray and yellow photos (No. 461-472) that should be green or olive, according to the authors. The bird labelled as a female Western Tanager is apparently a male in non-breeding plumage (based on the amount of red around the bill).

Another problem with this new approach is that no more than six, often only four, species are visible for comparison at once. Peterso regularly shows at least 12 and i Robbins' guide up to 50 birds (wa blers' heads) can be studied on facin pages. To compare our four Buteos i flight, one must look from pages 502 t 639.

How is the text laid out? The text ha species grouped by primary habitats' giving the reader "an additiona check" on identification. The autho suggest that readers look through th appropriate habitat section prior to trip to find out what species they ca expect to see. "Primary habitat" is n defined but the assignment of species to a single habitat questionable for identification since is partial to a number of habitat depending on area and season. Ho many people in the Prairie Province would expect the following species the habitats assigned, rather than one of the others or somewhere els *Open Ocean:* Northern Phalarop *Seashore:* Red-breasted Merganse Common Goldeneye, Bufflehea Eared and Horned Grebes, Gold Plover; *Salt Marshes:* Whoopin Cranes, Snow Goose, Willet, a yellowlegs and godwits, Long-bill Curlew; *Freshwater Marshes:* Sandh Crane, White-fronted Goose, Whi Pelican, Avocet, Short-eared Ow *Lakes, Ponds, Rivers:* Tree Swallo *Grasslands:* Common Nighthawk, Pal Warbler; *City Parks and Suburba Areas:* Mourning Dove, Dark-ey Junco, Eastern Phoebe, Comm

Crow; *Thickets and Second Growth:* both redpolls; *Texas Thickets and Second Growth:* Rock Wren; *Deciduous Forests:* Red-tailed Hawk, Golden Eagle, Black-capped Chickadee; *Coniferous Forests:* Great Horned Owl, Evening Grosbeak, Swainson's Thrush, Bohemian Waxwing and Black-billed Magpie.

As for the additional identification check, the Northern Shrike is shown at a nest in spruce but in the text is a grassland bird. The sequence of species within each habitat is by photograph number.

Because neither pictures nor text is arranged in a conventional manner, the fastest way to find a species is to use the index. But, to ensure that this book is frustrating to the last page, the index has been made as difficult to use as possible — no entries are indented. The reader cannot scan from Grebe to Grosbeak to Grouse without finding Eared, Horned, Black-headed, Ruffed, etc., starting in the same column with capital letters.

Interestingly enough, the name "Audubon Society" appears *only* on the title page and cover. The book is neither published by or for, nor endorsed by the Audubon Society — with good reason.

In conclusion, this is probably a nice book to receive or give but not to buy for yourself. The old identification guides are still the best. Robbins' is the more complete of the two for the Prairie Provinces and Northwest Territories and has more illustrations per species, but colour rendition is sometimes poor. Peterson's western guide has the advantage of arrows to ort out differences quickly. Opinion differs as to whether Robbins' onogram or Peterson's text is better or describing songs. Robbins' small maps, lacking political boundaries, may not be as useful as Peterson's text. Peterson has more on habitat and nest description. — *J. B. Gollop,* 2202 York Ave., Saskatoon, Saskatchewan S7J J1.

PETERSON, R. T. 1969. A field guide to western birds. Houghton Mifflin, Boston, 366 pp.

[2]ROBBINS, C. S., B. BRUNN and H. S. ZIM. 1966. A guide to field identification — birds of North America. Golden, New York. 340 pp.

[3]UDVARDY, M. D. F. 1977. The Audubon Society field guide to North American birds: western region. Knopf, New York.

RAILS OF THE WORLD

S. DILLON RIPLEY, with paintings by J. FENWICK LANSDOWNE. 1977. M. H. Feheley Publishers Ltd., Toronto. 406 pp. $75.00

This is a sumptuous book, bringing us practically everything known about the still poorly known family *Rallidae,* the rails, crakes, coots and gallinules of the world.

Throughout the book the 41 glowing plates, each depicting a number of species (generally three), are so spaced as to be fairly near the descriptions in the species accounts. The paintings are beautifully executed and artfully posed — there is the illusion of arrested motion in each of the 128 forms plus eight downy young shown. The paintings illuminate, rather than illustrate this monumental work.

The heart of the book is, of course, the species accounts (Chapter 4) but before reaching them Dr. Ripley discusses characteristics, distribution, evolution and speciation. After the species accounts there is a section of black and white photographs of rallids, then a chapter entitled "A Synopsis of the Fossil *Rallidae*" by Storrs L. Olson, Curator of Birds at The Smithsonian.

In going through the book I found that ignorance is the recurring theme in an astonishing number of forms. In the chapter "The Characteristics of Rails" the author remarks that the voices of many tropical and insular species are unrecorded, and that little is known of territorialism in rails.

Mystery Song. In common, I suppose with those SNHS members familiar with Manley Callin's article "Vocalization of the Virginia Rail: A Mystery Solved" (*Blue Jay,* June, 1968), I believed the persistent ornithological mystery he discussed had been laid to rest. Not so.

In the species account of the Black Rail Dr. Ripley noted that William Brewster in 1901 thought this species gave the mysterious "kicker" song. In 1902 J. H. Ames reported that a Yellow Rail he had in captivity gave the "kicker" song. Manley Callin describes the work done in Saskatchewan between 1961 and 1964 leading to the discovery that the Virginia Rail was the mystery songster. Ripley, in the species account of the Virginia Rail states "Only recently (Reynard and Harty, 1966-67) has this song been traced to the Virginia Rail."

George B. Reynard and Stephen F. Harty are credited with the discovery when they published "Ornithological 'Mystery' Song Given by Male Virginia Rail" in *Cassinia* 50:3 (1966-67 issue published November 1968). I have not consulted it so I do not know when the field work was done, whether before or after the Saskatchewan work, but certainly Manley Callin's account predated the Reynard and Harty account. While immersed in this review the mail brought the September, 1977 issue of *American Birds* which included an account by Stephen F. Bailey "Ornithological Mystery Story' Revisited — The Plot Thickens". Bailey concluded that the California Clapper Rail also gave the "kicker" song.

Bailey refers to an earlier suggestion by Richard C. Bollinger and Emmerson Bowes (1973, "Another Chapter in the 'Ornithological Mystery Story' ", *American Birds,* Vol. 27, pp. 741-742) that more than one species of rail utters the mystery song. In view of the evidence which has accumulated it certainly seems reasonable that very similar calls are given by a number of rail species although why the callers should be heard giving the "kicker" call so rarely in relation to their abundance has not yet been satisfactorily answered.

Endangered Environment and Endangered Species. Dr. Ripley is properly concerned, as we all should be, with the fact that many of his rallids live in environments that are disappearing. There is a trend in developed countries to alter or destroy water systems, and developing countries all too often see wetlands, when dried out, as potential agricultural land. Conservationists the world over battle to show that undisturbed water systems are vital to mankind, let alone the marsh dwellers! Since even the most remote regions are becoming more and more accessible, and greater amounts of leisure time are here or ahead of many of us, Dr. Ripley has given all of us a wealth of goals for filling in some of the gaps in our knowledge of the *Rallidae.* Many of the species are rare so life-listers had better get cracking on the task of adding them to their lists while, at the same time, adding something to our knowledge of them.

The book is unreservedly recommended. Even at $75.00 a copy it could be considered as a prudent investment. — *Frank H. Brazier,* 2657 Cameron Street, Regina, Saskatchewan S4T 2W5

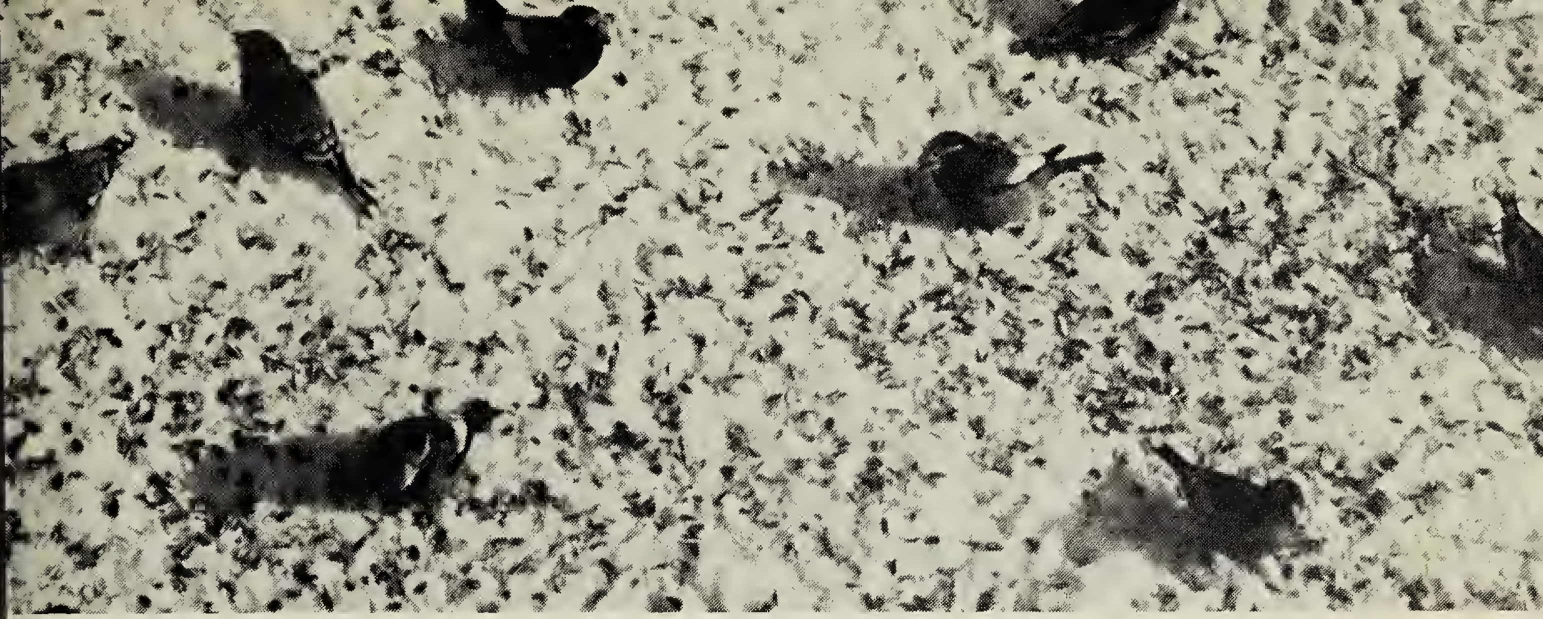
MY RECIPES ARE FOR THE BIRDS

IRENE COSGROVE, illustrated by Ed Cosgrove. 1977. Doubleday & Company, Inc., Garden City, New York. 30 pp. $2.95 U.S.

Does the mere mention of a recipe for Bluebird Betty sound enticing tickle your taste buds? And how abou Chickadee Crunch, Dove Delight Finch Fries, Grosbeak Goolash? Ah and here's another, Jay Jambalaya And Sparrow Stew!

Whether they whet your appetite and start you getting out the mixing bowl, I must tell you that these are some of the recipe titles in a neat little ringed cook book now on the market written by Irene Cosgrove, with line drawings by Ed Cosgrove.

In her introduction the author state that "The following recipes have something special for everyone. They will attract and delight the guests a your feeders, and provide the warmth



Evening Grosbeaks *J. B. Gollop*

and energy that is needed during the cold winter months."

Many people today are concerned about the comfort and needs of our feathered friends during the winter season. The birds that remain with us, to share the snow, ice and low temperatures are among our most colorful and interesting residents and visitors.

So long as there are evergreens with abundant cones, seeds and fruit remaining on deciduous trees and weed seeds upon the ground or above the snow, the birds will be able to find food and, consequently, body warmth. Severe icing storms and very low temperatures may mean discomfort and possible death. It is then the feeding station is a lifesaver to bird populations.

The Author offers advice on when to set out feeders, well in advance of arrival of the birds, what types to use, both elevated and ground, to attract patrons of different needs and tastes. Drawings suggest styles.

As birds are creatures of habit she reminds readers of most important point, that once begun the feeding must be continued through the winter.

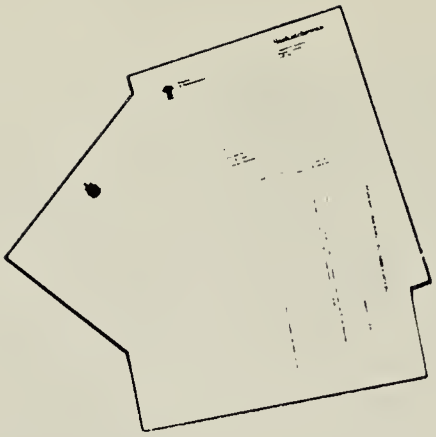
Among the ingredients for her recipes, that include raw suet, kitchen scraps, seeds, etc. available at feed shops, she gives her own Granola Treat: One cup each of the following: peanut hearts, white millet, wheat germ, crushed dog biscuits, raisins and sunflower seeds. Heat separately ½ cup honey and ½ cup corn oil. Mix well and bake at 375 degrees for ten minutes. Refrigerate. Granola can be fed as is or combined with suet.

Among other recipes with intriguing titles are Cardinal Casserole, Junco Jubilee, Kinglet Kugel, and so on. Mockingbird Muffins uses 1 cup cornmeal, 1 cup flour, 1 cup bread crumbs, ½ tsp. soda, ¾ cup currants, ½ cup bacon drippings, 1 tsp. sand, 1 cup water. Bake in muffin tins at 350 degrees for 15 minutes. Serve on feeder tray or impaled on branches.

Checking recipes like Wren Wrolls and so on, with their coconut, raisins, nuts, and other ingredients. I, soberly, consider the consumer prices of these items. With spiralling prices and inflation, knowing the length of winter and the speed with which outdoor food disappears, I wonder how practical those of us, not of unlimited means, would practise use of such extravagant fare, no matter how great is our desire to be kind to our 'little sisters of the wild.'

The little volume follows through with suggestions for help during migration, spring, nesting time and summer.

As we may, in our home cooking endeavors, use substitutes at head of equal food value, we may benefit from suggestions in this bright little book. For the author has produced a delightfully packaged work, with the original illustrations adding greatly to its visual value. — *Elizabeth Cruickshank,* 2329 Athol Street, Regina, Saskatchewan S4T 3G4.



LETTERS

FALCONS AND MAGPIES

On December 7, 1977, a cold cloudy day with a light easterly wind, a Prairie Falcon gave chase to the farm pigeon flock. The pigeons flew immediately to the small coop in which they stay, but as there were only four entrance holes, 4″ x 6″, all the birds could not enter in time, so several sought refuge by dropping to the ground and under trees that surround the building. The falcon would circle the area and sometimes hover above the coop, making sudden dives at birds not well hidden.

Magpies immediately began gathering, flitting from tree to tree and not seeming too concerned about the falcon; one even flew up beside the falcon as he hovered some 15 feet above the coop, but the falcon paid no heed to it.

Now, I wonder, are magpies bad tasting? or what is the reason most hawks do not consider them as food?

A few years back, I saw magpies gather around a Gyrfalcon that had captured a pigeon and as he was busily plucking it, one magpie walked boldly up behind and tugged at his long flight feathers. I have found magpie feathers in Swainson's Hawk and horned owl nests, and once saw a Swainson's Hawk carrying a young magpie to his nest. But falcons seldom pay any attention to them. The magpie is a slow flyer, often travels across open fields and, so would be vulnerable to the falcon, but there seems to be some kind of a truce between them.

I have noticed that cats have to be very hungry before they will eat a magpie. In early December a magpie became trapped in a chicken pen so I disposed of it and when I was carrying it away, a young cat that is perpetually hungry came running. I pulled the feathers off the breast and dropped the bird to the cat, who attacked it greedily. Later I came back and the magpie had hardly been touched. The cat, after tasting it, had left it. Had this been a partridge or a pigeon, I am sure it would have been entirely eaten. — *Sig Jordheim,* White Bear, Saskatchewan.

COUGAR SIGHTINGS

I have three cougar sightings to report. The first cougar was seen by myself on July 20, 1977 at 1030 beside the road on SE-17-9-20-W3rd. The second was seen by Ralph Stoneman on July 29, 1977 at 1600 beside a barn on SE-18-9-21-W3rd. And on August 16, 1977 at 1430 I again saw a cougar on the roadside on SW-16-9-20-W3rd.

This last cougar was a female, and she must have been nursing young because she appeared to have two full udders.

All three sightings were at close range. The two I saw were within 50 to 60 feet away, and they didn't run away when I stopped the car. Each time the animal still stood and watched as I drove away. *Doreen Kemper,* Box 368, Shaunavon, Saskatchewan S0N 2M0.

LAZULI BUNTING NEAR LANGHAM

In their article on Lazuli Buntings in Saskatchewan (September, 1977, *Blue Jay*), Ron Jenson and Don Weidl request comments on other observations.

On May 14, 1976, I watched for 10 minutes three Lazuli Buntings, a male and two females, perched or flying around a barbed wire fence beside a slough 4 miles west of Langham, Saskatchewan, along the Edmonton highway. My observation was close and detailed enough to leave no room for doubt. I also have a colour photograph.

Because I did not realize that the species was so infrequent in Saskatchewan, the observation has not hitherto been put on record. *W.A.S. Sarjeant,* Department of Geological Sciences, University of Saskatchewan, Saskatoon, Saskatchewan. S7N 0W0.

FROM A PENNED OWL

I am a large owl with large eyes, the colour of which I do not know, but I have keen hearing with my small ears. I am fluffy and keep quite warm in the winter months with my abundance of grey and brown feathers. I have quite long and strong legs and talons, but when I'm resting, I look like I'm sitting on my body with no legs at all! I must weight about 4 pounds, and when I'm flying my wing span is over 4 feet. I can fly silently and swiftly. At present my sex is unknown, and so I can't tell you whether I'm male or female.

For the last 4 or 5 years I have been a resident of that much publicized and notorious institution, the Saskatchewan Penitentiary — by choice, not by conviction. I stay mostly within the confines of the massive New Shops Dome area, where most of the industrial activity is carried out by staff and inmates.

No one sees me in the daytime, for I keep well hidden in the upper, forbidding superstructure of "The Dome". But at night, Oh Boy, do I ever do my thing, when the spirit moves me. Occasionally I fly to the top of the high wall that surrounds "The Establishment". One evening recently, I flew from the roof of the Tailor Shop to a spot about 15 feet from the West Wall Tower, on the north side. The officer in the tower studied me closely with binoculars for about 10 minutes; then I returned to the Tailor Shop. Twenty minutes later, I flew to the high roof of the Boiler House, where I frightened some pigeons that roost there. The resulting tumult of cries and coos drew the attention of the yard patrol officer and his shepherd dog, and by the time the officer tried to drive me off with sticks and stones, and with the dog barking loudly, I'm sure every man and beast in the area was wide awake. So far I haven't been hit with the missiles, and the Yard Officer hasn't shot at me with his .38

reat Horned Owl *J. B. Gollop*

Special, or worse still, that Tower Officer with his high powered rifle. If they did, I might end up on the endangered species list. But the yard man was only trying to protect the pigeons, and the Tower Officer showed a genuine interest in me. He is writing a story about me, and I hope his description is vivid, because I feel I'm important. And just like the other inhabitants of the Pen, I may remain here a long time, providing I don't make that unsavory endangered list.

I hope I have properly introduced myself to you. Until we meet again, take care, and I'll say what I say to everything and everyone else around here — "Hoo, Hoo to you too"! — *Gordon B. Kennedy,* 789 22nd St. East, Prince Albert, Saskatchewan S6V 1N9

WESTERN SANDPIPER CORRECTION

I'm writing in regard to a sighting of a Western Sandpiper which I made in Saskatchewan a few years ago. The sighting was reported in "Highlights of Saskatoon Observations 1970-1974" by Stan Shadick, *Blue Jay* 33:165-168. There are a couple of errors in the text which I would like to correct. Firstly, the bird was noted to have a "rusty cap and back" not a "rusty crown and cap". Secondly, the bird was seen at *Vanscoy Lake* (near Purdue) not at Vanscoy, and is, therefore, 5 miles west of the Saskatoon area as defined by the Saskatoon Natural History Society. Details of the sighting are correctly reported in Renaud and Renaud's *Birds of Rosetown-Biggar* — *Al Smith,* 1110 - 10025 Jasper Ave., Edmonton, Alberta.

COLONIAL BIRD REPORTS SOUGHT

This summer I will again be conducting a survey of white pelicans and double-crested cormorant colonies in Saskatchewan. I would appreciate any nesting reports for these birds.

I am also interested in receiving breeding records for all colonial nesting species of herons, grebes, gulls, and terns. Data should include th location and size of the breedin colony.

Please send information to:

Keith Roney,
Museum of Natural History,
College and Albert St.,
Regina, Saskatchewan S4S 0B3

PRAIRIE NEST RECORD REPORT AVAILABLE

The Prairie Nest Record Schem report for the 1977 nesting season i available on request. Also, person interested in becoming contributors t this program can obtain informatio and recording cards by writing to:

H. W. R. Copland
Prairie Nest Record Scheme
c/o Manitoba Museum of Man an
Nature
190 Rupert Avenue
Winnipeg, Manitoba
R3B 0N2

Information recorded on nestin birds is used by federal and provincia biologists, people doing environmenta impact studies, university student working on research projects, etc.

PLAINS AQUATIC RESEARCH CONFERENCE

The Water Studies Institute and th Dept. of Extension of the University c Regina are planning to hold a two-da conference in Regina in the fall c 1978. The conference will be devote to aquatic research and its applicatio in the plains environment and pape related to any aspect of that them will be invited. The conference i intended, not only for researchers, bu also professionals an paraprofessionals. If you are i terested, write for information to:

Dept. of Extension, Univ. of Regina,
Room 113, College Bldg.,
College Avenue & Scarth Street,
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